

Harrier[®] + MPI Control Box

3A7378E

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For accurately metering and injecting chemicals into multiple wells. Intended to be used only with a KRAKN[™] MPI solenoid valve manifold. For professional use only.

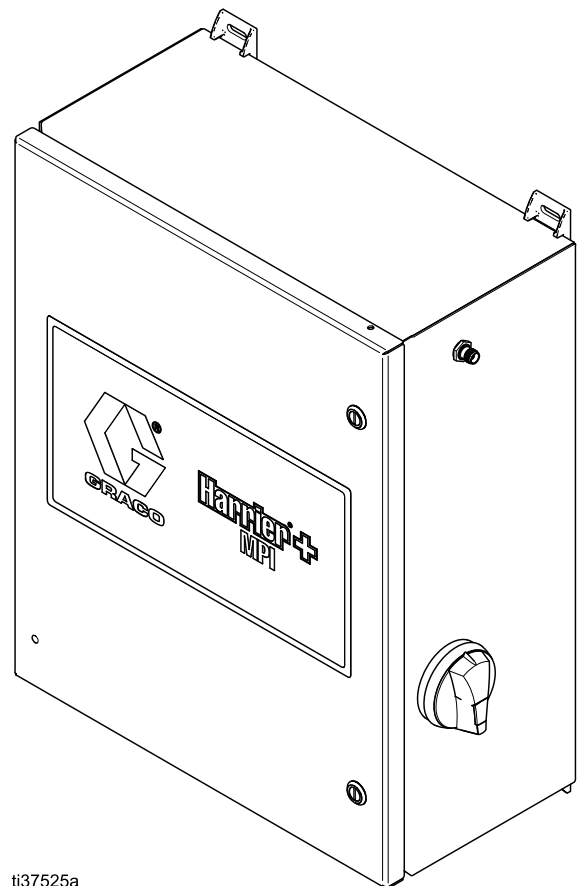
Not approved for use in explosive atmospheres or hazardous (classified) locations.

See page 4 for model information.



Important Safety Instructions

Read all warnings and instructions in this manual, and other related manuals on page 3, before using the equipment. Save all instructions.



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Related Manuals

Manual No.	Description
334513	Wolverine [®] Chemical Injection Pump
3A4130	Harrier [®] + Chemical Injection Controller
3A5025	Stand Kits
3A5028	G-Chem [™] Chemical Injection Pump
3A5375	Tank Level Monitor Kit
3A7379	KRAKN [™] MPI Solenoid Valve Manifold
3A3944	Pressure Sensor Kit
3A5025	Stand Kit

Approvals

Models	Approvals
CI-D24-0x00-2M	
CI-A1A-0x00-0M	 <p> Intertek 3132066 Conforms to UL STD 508A Certified to CSA STDS C22.2 No. 286 </p>
CI-A1A-0x00-2M	

Models

Part Number	Configuration Code	Input Voltage	Controller	Output Voltage
B52M00	CI-D24-0300-2M	24 VDC	Harrier+ SCADA	24 VDC
B52M01	CI-D24-0400-2M		Harrier+ GSM USA	
B52M02	CI-D24-0500-2M		Harrier+ International	
B52M03	CI-D24-0600-2M		Harrier+ CDMA	
B52M04	CI-A1A-0300-0M	115 VAC	Harrier+ SCADA	115 VAC
B52M05	CI-A1A-0400-0M		Harrier+ GSM USA	
B52M06	CI-A1A-0500-0M		Harrier+ International	
B52M07	CI-A1A-0600-0M		Harrier+ CDMA	
B52M08	CI-A1A-0300-2M	115 VAC	Harrier+ SCADA	24 VDC
B52M09	CI-A1A-0400-2M		Harrier+ GSM USA	
B52M10	CI-A1A-0500-2M		Harrier+ International	
B52M11	CI-A1A-0600-2M		Harrier+ CDMA	

Control Box Configuration Number Matrix

Check the identification plate (ID) for the 12-digit Configuration Number of your box. Use the following matrix to define the components of your box.

NOTE: Not all possible configurations are available.







Sample Configuration Number: CI-D24-0300-2M

CI	D	24	0	3	0	0	2	M
Chemical Injection Control Box	Box Style	Voltage	Solar Charge Controller	Pump Controller	Number of Batteries	Number of Solar Panels	Option #1	Option #2

Control Box Style	Voltage		Solar Charge Controller		Pump Controller		Number of Batteries		Number of Solar Panels		Option #1		Option #2	
A AC Box	1A	115 VAC	0	None	3	Harrier+ SCADA	0	None	0	None	0	None	M	Multiple-Point Injection
D DC Box	24	24 VDC			4	Harrier+ GSM USA					2	24 VDC Out		
					5	Harrier+ International								
					6	Harrier+ CDMA								

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 symbols refer to procedure-specific risks. When these symbols appear in the body of this manual or on warning labels, refer back to these Warnings. Product-specific hazard symbols and warnings not covered in this section may appear throughout the body of this manual where applicable.

 WARNING	
 	<p>FIRE AND EXPLOSION HAZARD</p> <p>When flammable fluids are present in the work area be aware that flammable fumes can ignite or explode. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> • Use equipment only in well ventilated area. • Eliminate all ignition sources, such as cigarettes and portable electric lamps. • Ground all equipment in the work area. • Keep work area free of debris, including rags and spilled or open containers of solvent. • Do not plug or unplug power cords or turn lights on or off when flammable fumes are present. • Use only grounded hoses. • Stop operation immediately if static sparking occurs or you feel a shock. Do not use equipment until you identify and correct the problem. • Keep a working fire extinguisher in the work area.
 	<p>ELECTRIC SHOCK HAZARD</p> <p>This equipment must be grounded. Improper grounding, setup, or usage of the system can cause electric shock.</p> <ul style="list-style-type: none"> • Turn off and disconnect power at main switch before disconnecting any cables and before servicing or installing 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.
	<p>EQUIPMENT MISUSE HAZARD</p> <p>Misuse can cause death or serious injury.</p> <ul style="list-style-type: none"> • 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 Specifications in all equipment manuals. • Use fluids and solvents that are compatible with equipment wetted parts. See Technical Specifications in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request Safety Data Sheet (SDS) from distributor or retailer. • Turn off all equipment and follow the Pressure Relief Procedure when equipment is not in use. • Check equipment regularly. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only. • Do not alter or modify equipment. Alterations or modifications may void agency approvals and create safety hazards. • Make sure all equipment is rated and approved for the environment in which you are using it. • 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.

WARNING





PERSONAL PROTECTIVE EQUIPMENT

Wear appropriate protective equipment when in the work area to help prevent serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. Protective equipment includes but is not limited to:

- Protective eyewear, and hearing protection.
- Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.

Installation

				
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All electrical wiring must be done by a qualified electrician and comply with all local codes and regulations.





Attach Control Box to Stand

Refer to your stand manual for control box installation. (See **Related Manuals** on page 3.)

See **Typical Installation**, on page 12, for location of the control box and stand relative to the chemical injection pump.

NOTE: The control box can also be mounted to a flat surface (either vertical or horizontal). (See **Dimensions**, on page 26, for mounting holes.)

Grounding

				
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The equipment must be grounded to reduce the risk of static sparking and electric shock. Electric or static sparking can cause fumes to ignite or explode. Improper grounding can cause electric shock. Grounding provides an escape wire for the electric current.

Control Box: Contains ground terminal (12), see FIG. 1. Connect the ground terminal (12) to earth ground. Torque the terminal screw to 18-22 in-lbs (2-2.5 N•m). See **Pump Connection** on page 9.

All external connected equipment and accessories must be connected to the grounding bar.

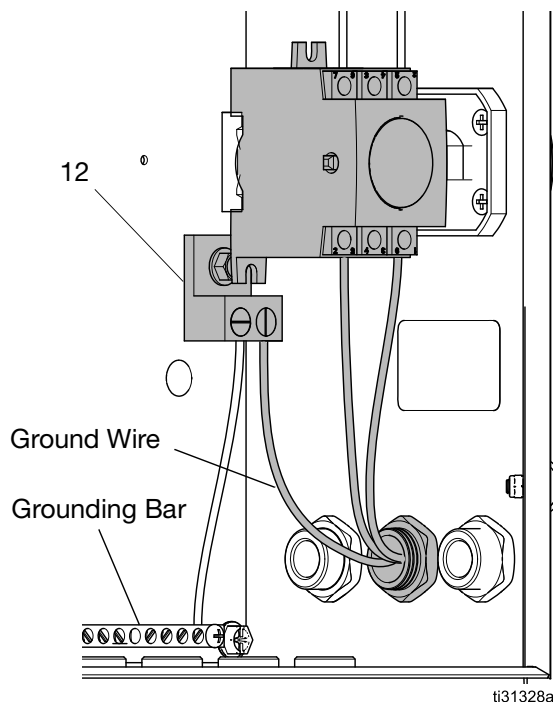




FIG. 1: Grounding Terminal and Bar

Connect Power

				
<p>Improper wiring may cause electric shock or other serious injury if work is not performed properly.</p> <ul style="list-style-type: none">• Ensure that incoming power is disconnected and locked out at the source.				

NOTE: Main power cord is not supplied.

Wire the main power cord to positions shown in FIG. 2. Terminals will accept up to #8 AWG (10 mm²) conductors.

1. Using a flat screw driver, turn the front-cover fasteners 90° counterclockwise. Open the front cover.

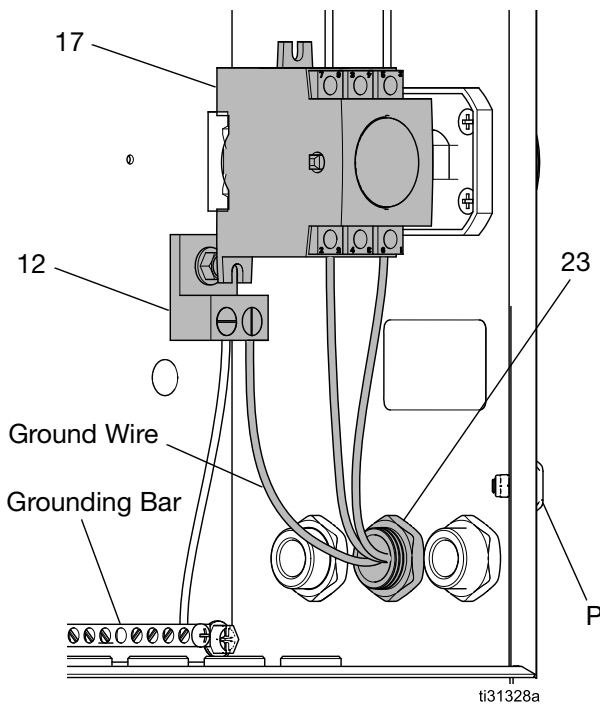




FIG. 2: Connect Electrical Cord

2. Connect the main power cord to the control box as follows:
 - a. Feed the main power cord through the strain relief (23) on right side of the control box. The strain relief accepts cords 0.59 to 1.0 in. (15-25 mm) diameter.
 - b. Pull the yellow release lever on the bottom of the power disconnect contacts block (17) to slide out the block for easy wiring.
 - c. Use a screwdriver to back out the screws at the power lead locations on the contacts block (17). Insert the power leads and retighten the screws to secure. Torque to 18-22 in-lbs (2-2.5 N•m).
 - d. Snap the contacts block (17) back into position.
 - e. Tighten strain relief nut (23).
3. Close the front cover and turn the cover fasteners 90° clockwise.

Pump Connection

				
Verify that power is disconnected before connecting pump power wires.				

Verify that power is disconnected before connecting pump power wires.

Refer to the pump instruction manual for pump operation. (See **Related Manuals** on page 3.)

115 VAC Pumps (CI-A1A-0x00-0M)

Connect the pump wires as follows:

- Motor white wire to the MTR N (-) terminal. Torque to 5-7 in-lbs (0.6-0.8 N•m).
- Motor black wire to the MTR L (+) terminal. Torque to 18-22 in-lbs (2-2.5 N•m).
- Motor green wire to the grounding bar. Torque to 18-22 in-lbs (2-2.5 N•m).

The control box is pre-configured with a 6 A circuit breaker. See **Power Terminals and Circuit Breakers** on page 10.

24 VDC Pumps (CI-D24-0x00-2M and CI-A1A-0x00-2M)



The pump control circuit includes an in-line mini-ATM in fuse holder F2. Install a fuse per your pump instruction manual. (See **Related Manuals** on page 3.)

Connect the pump wires as follows:

- Pump positive wire to terminal 7. Torque to 5-7 in-lbs (0.6-0.8 N•m).
- Pump negative wire to terminal 8. Torque to 5-7 in-lbs (0.6-0.8 N•m).
- Pump green wire to the grounding bar. Torque to 18-22 in-lbs (2-2.5 N•m).

See **Power Terminals and Circuit Breakers** on page 10.

Multiple-Point Valve Manifold Connection



				
Verify that power is disconnected before connecting the multiple-point valve manifold assembly.				

Refer to the multiple-point valve manifold instruction manual for operation. (See **Related Manuals** on page 3.)

Connect the ground wire to the grounding bar. (See **Grounding** on page 7.)

Connect the valve manifold wires to terminals 32-41 according to **Multiple-Point Valve Manifold Connection** on page 11. Torque to 5-7 in-lbs (0.6-0.8 N•m).

Accessory Connections

				
Verify that power is disconnected before connecting accessories.				

Refer to the Harrier+ instruction manual for operation. (See **Related Manuals** on page 3.)

Connect the ground wires to the grounding bar. (See **Grounding** on page 7.)

Connect accessory wires to terminals 9-31 according to **Multiple-Point Valve Manifold Connection** on page 11. Torque to 5-7 in-lbs (0.6-0.8 N•m).

Power Terminals and Circuit Breakers

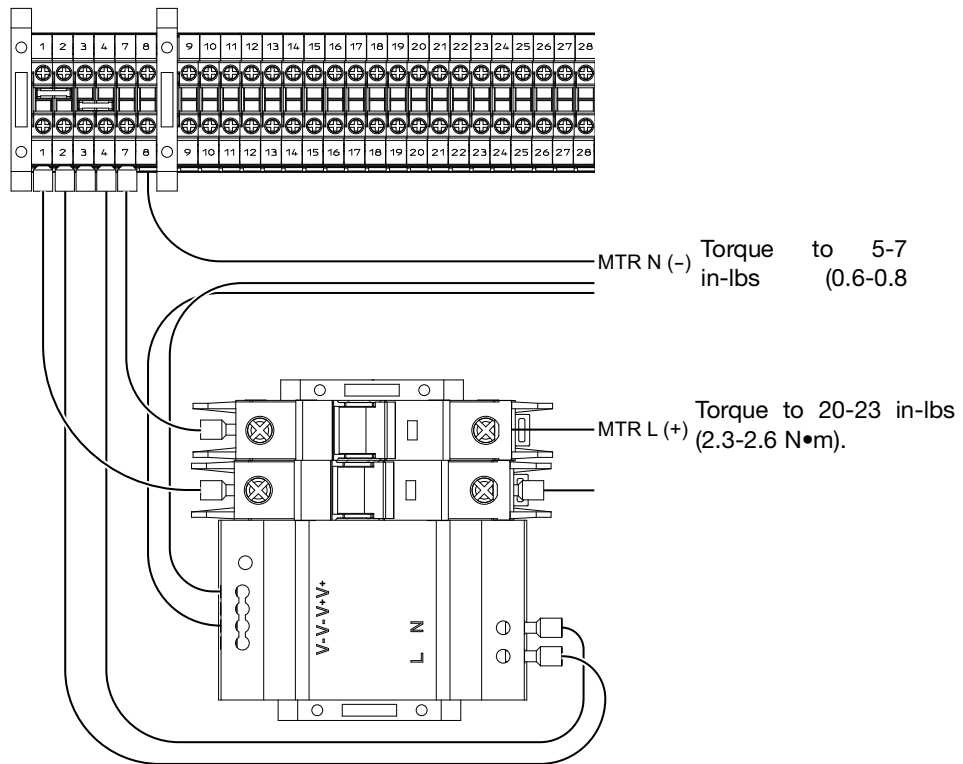


Fig. 3: 115 VAC Out Models (CI-A1A-0x00-0M)

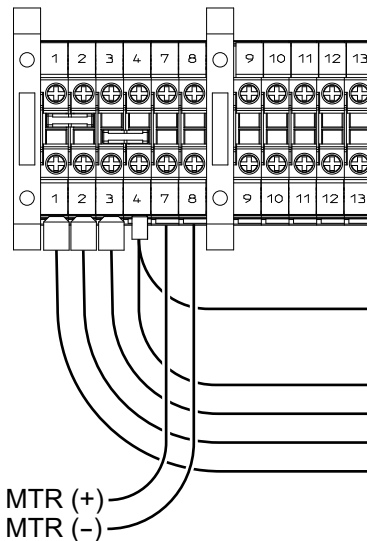


Fig. 4: 24 VDC Out Models (CI-D24-0x00-2M and CI-A1A-0x00-2M)

To install a wire, loosen the screw above the wire location, insert the wire, tighten the screw. Torque to 5-7 in-lbs (0.6-0.8 N•m).

To remove a wire, loosen the screw and remove the wire.

Multiple-Point Valve Manifold and Accessory Terminals

A terminal block assembly is included to ease wiring the solenoids and accessories. All terminal blocks are labeled similar to the tables shown below. Depending on your system, not all of the terminals will be present.

USE COPPER CONDUCTORS ONLY																																						
L	L	N	N	L(+)	N(-)	+	-	+	-					+	-	+	-	+	-	+	-					BLK (RX)	RD (TX)	GRN (GND)	+	+	+	+	-	-	+	+	+	+
LINE	NEUTRAL	MOTOR	CYC CNTR	AUX SW	#1 ALM	#2 ALM	P/S PWR	P/S SIG	TLM	IN ANLG	OUT ANLG	TEMP	SCADA				S1	S2	S3	S4	GND	S5	S6	S7	S8													
1	2	3	4	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41

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USE CLASS 1 CONDUCTORS

SCADA UNITS ONLY

MULTI-POINT INJECTION SOLENOID VALVES

USE COPPER CONDUCTORS ONLY																																						
+	+	-	-	L(+)	N(-)	+	-	+	-					+	-	+	-	+	-	+	-					BLK (RX)	RD (TX)	GRN (GND)	+	+	+	+	-	-	+	+	+	+
DC	DC	MOTOR	CYC CNTR	AUX SW	#1 ALM	#2 ALM	P/S PWR	P/S SIG	TLM	IN ANLG	OUT ANLG	TEMP	SCADA				S1	S2	S3	S4	GND	S5	S6	S7	S8													
1	2	3	4	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41

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USE CLASS 1 CONDUCTORS

SCADA UNITS ONLY

MULTI-POINT INJECTION SOLENOID VALVES

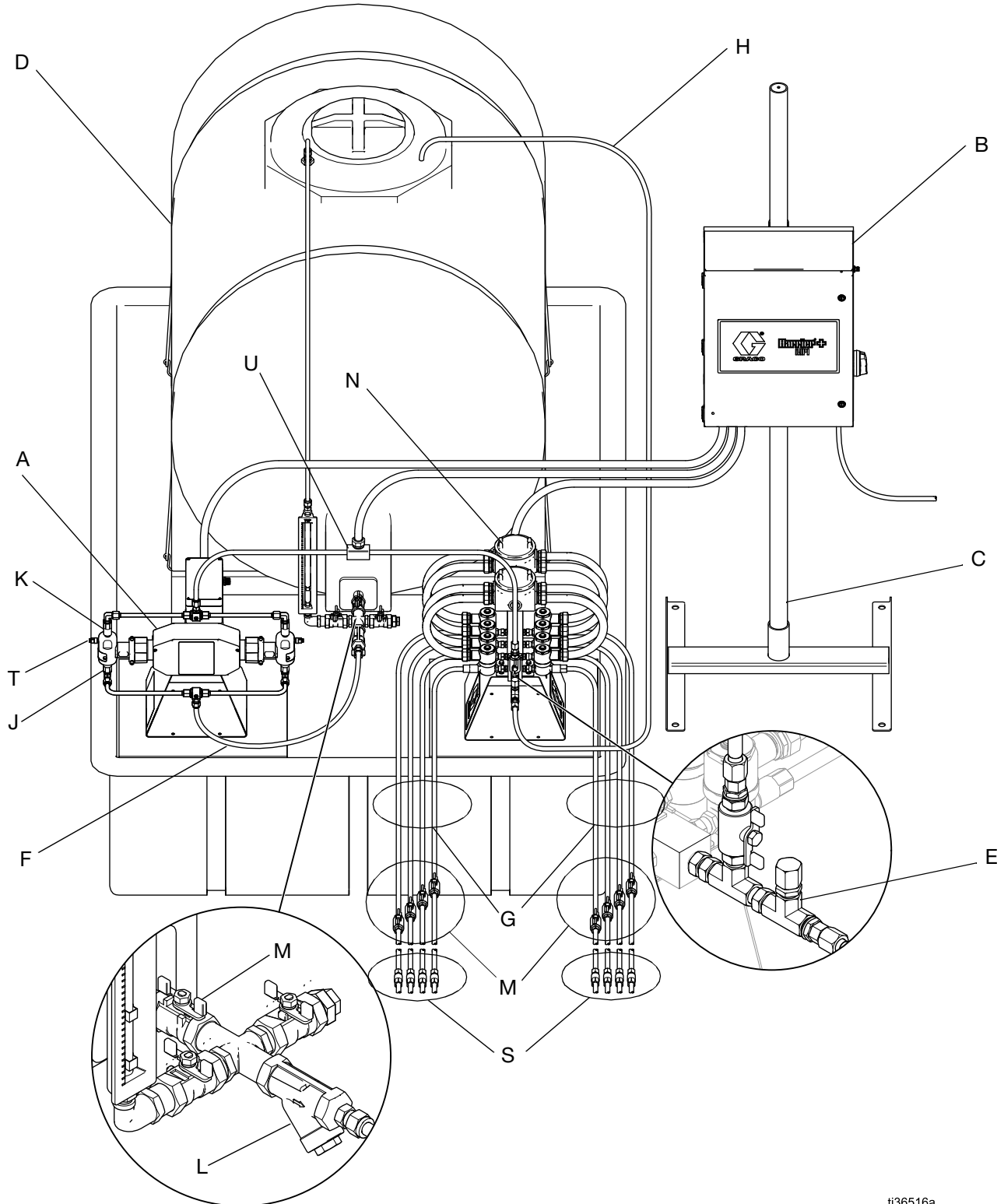
Terminal Block Key

- | | |
|-------------------------------------|---------------------------------------|
| 9 Cycle Counter, positive | 26 Analog Out, Ground |
| 10 Cycle Counter, negative | 27 Temperature Sensor |
| 11 Auxiliary Switch, positive | 28 Temperature Sensor |
| 12 Auxiliary Switch, negative | 29 Receive, black (SCADA models only) |
| 13 Alarm #1 | 30 Transmit, red (SCADA models only) |
| 14 N/A | 31 Ground, green (SCADA models only) |
| 15 Alarm #2 | 32 Solenoid Valve #1 |
| 16 N/A | 33 Solenoid Valve #2 |
| 17 Pressure Sensor Power, positive | 34 Solenoid Valve #3 |
| 18 Pressure Sensor Power, negative | 35 Solenoid Valve #4 |
| 19 Pressure Sensor Signal, positive | 36 Solenoid Valve Ground (1-4) |
| 20 Pressure Sensor Signal, negative | 37 Solenoid Valve Ground (5-8) |
| 21 Tank Level Monitor, Power | 38 Solenoid Valve #5 |
| 22 Tank Level Monitor, Signal | 39 Solenoid Valve #6 |
| 23 Analog In, Power | 40 Solenoid Valve #7 |
| 24 Analog In, Signal | 41 Solenoid Valve #8 |
| 25 Analog Out, Signal | |

To install a wire, loosen the screw above the wire location, insert the wire, tighten the screw. Torque to 5-7 in-lbs (0.6-0.8 N•m).

To remove a wire, loosen the screw and remove the wire.

Typical Installation



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Fig. 5 Multiple-Point Injection System Layout

Typical Installation Components

FIG. 5 is an example of an installation with a multiple-point injection valve manifold and control box. Your installation may differ from what is shown here. The multiple-point valve manifold assembly (N), pump (A), and control box (B) in FIG. 5 are supplied by Graco. All other components are supplied by the customer.

Key:

- A Pump (includes Inlet (J) and Outlet (K) ports)
- B Multiple-Point Injection Control Box
- C Stand
- D Tank
- E Pressure Relief Valve
- F Inlet Line
- G Outlet Line
- H Pressure Relief Line
- J Inlet Port
- K Outlet Port
- L Manifold Assembly; includes Y-strainer and fluid shutoff valve (M)
- M Fluid Shutoff Valve (inlet & outlet)
- N Multiple-Point Injection Valve Manifold Assembly
- S Check Valve
- T Pump Bleed Valve
- U Pressure Sensor

Operation



To reduce the risk of electric shock when accessing the control box while power is present:

- Do not make contact with components or wires unless instructed to do so.
- Wear appropriate personal protective equipment.

Your Harrier+ controller is pre-installed. Remember that power is always present in the control box whenever you configure or operate the controller.

1. Open the panel door.
2. Do not touch anything but the controller while the control box is open and power is present.

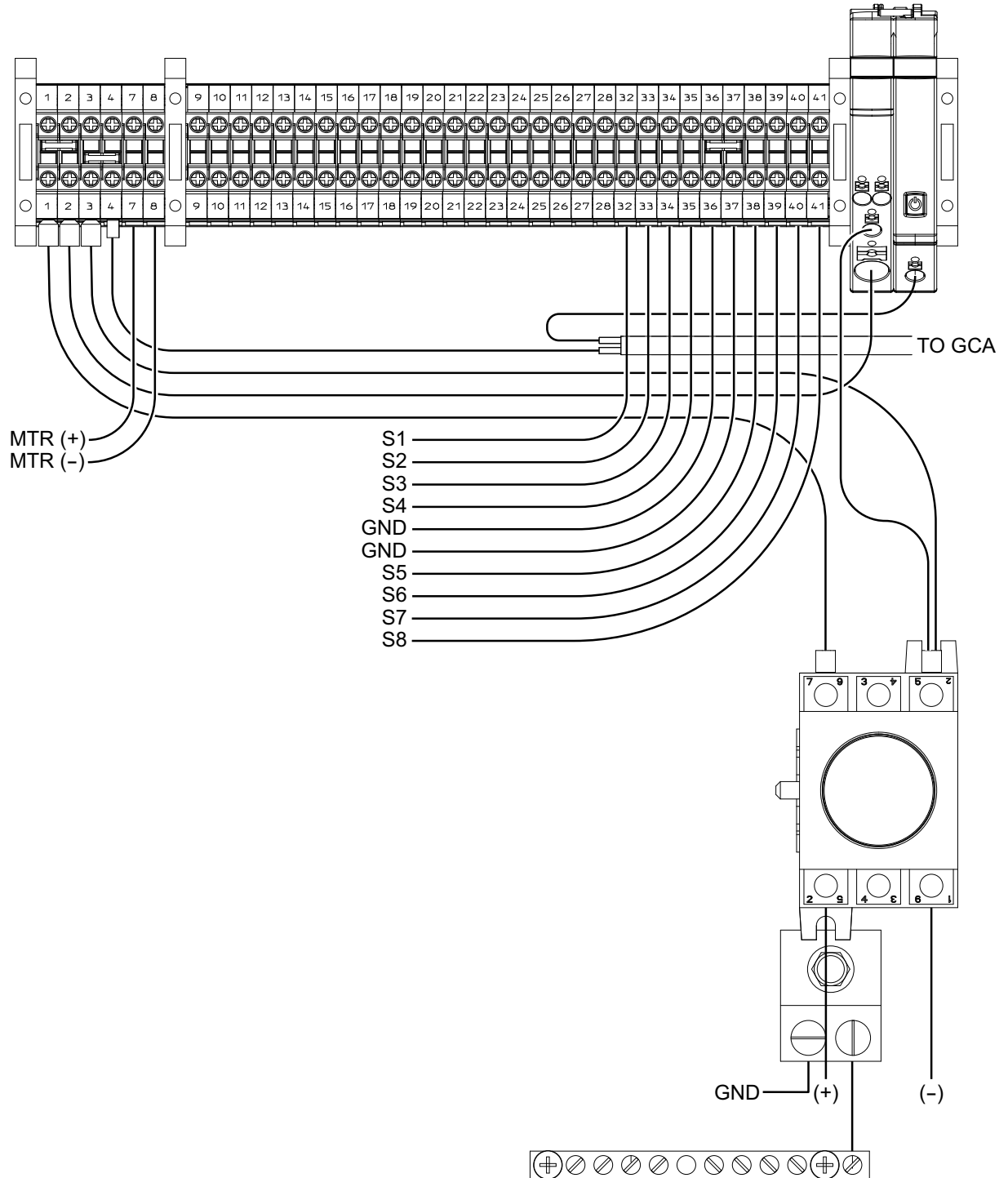
Refer to your Harrier+ manual for controller operation. (See **Related Manuals** on page 3.)

3. Close the panel door.

Wiring Schematics

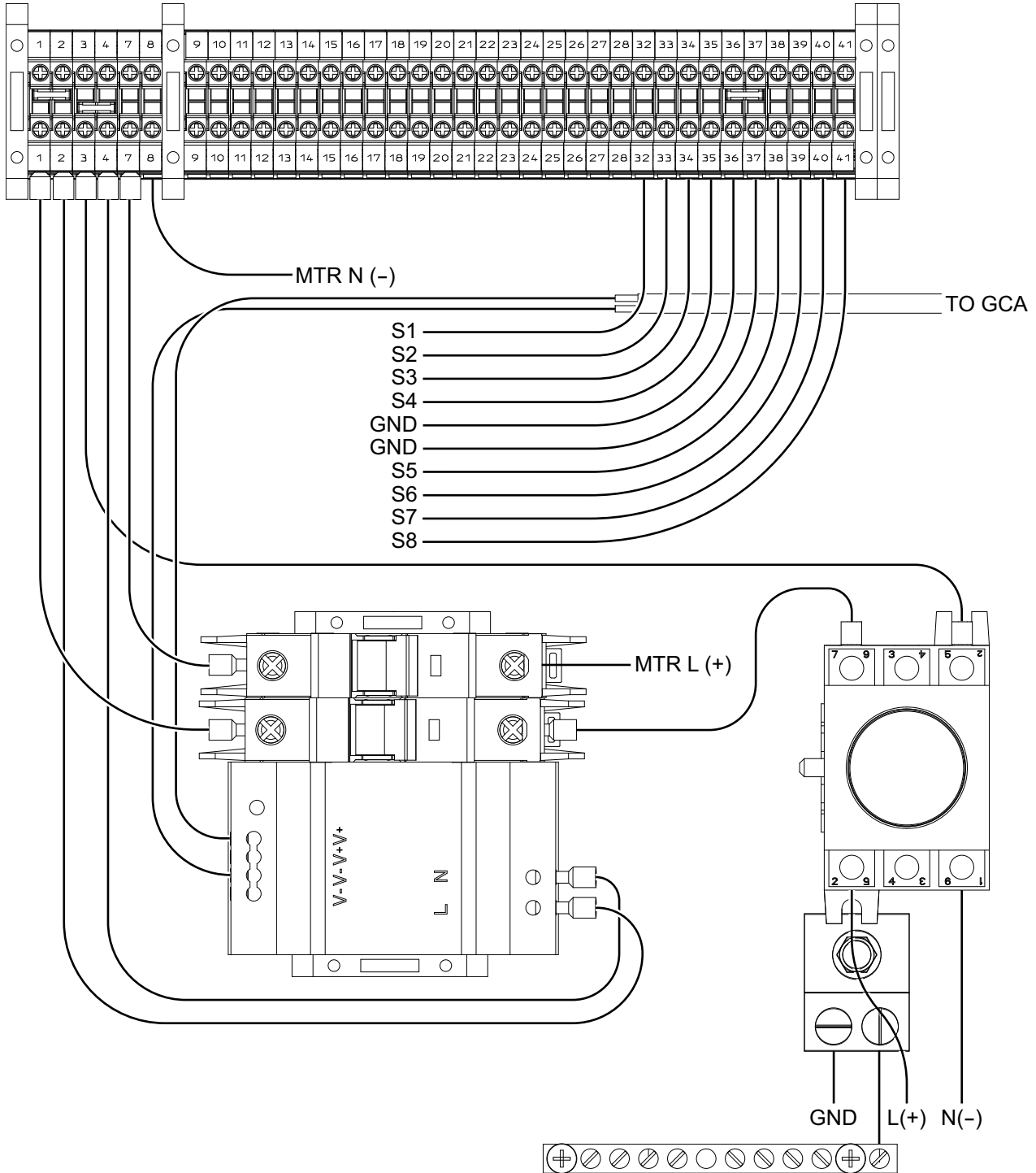
24 VDC IN and 24 VDC OUT

B52M00 configuration CI-D24-0x00-2M is shown



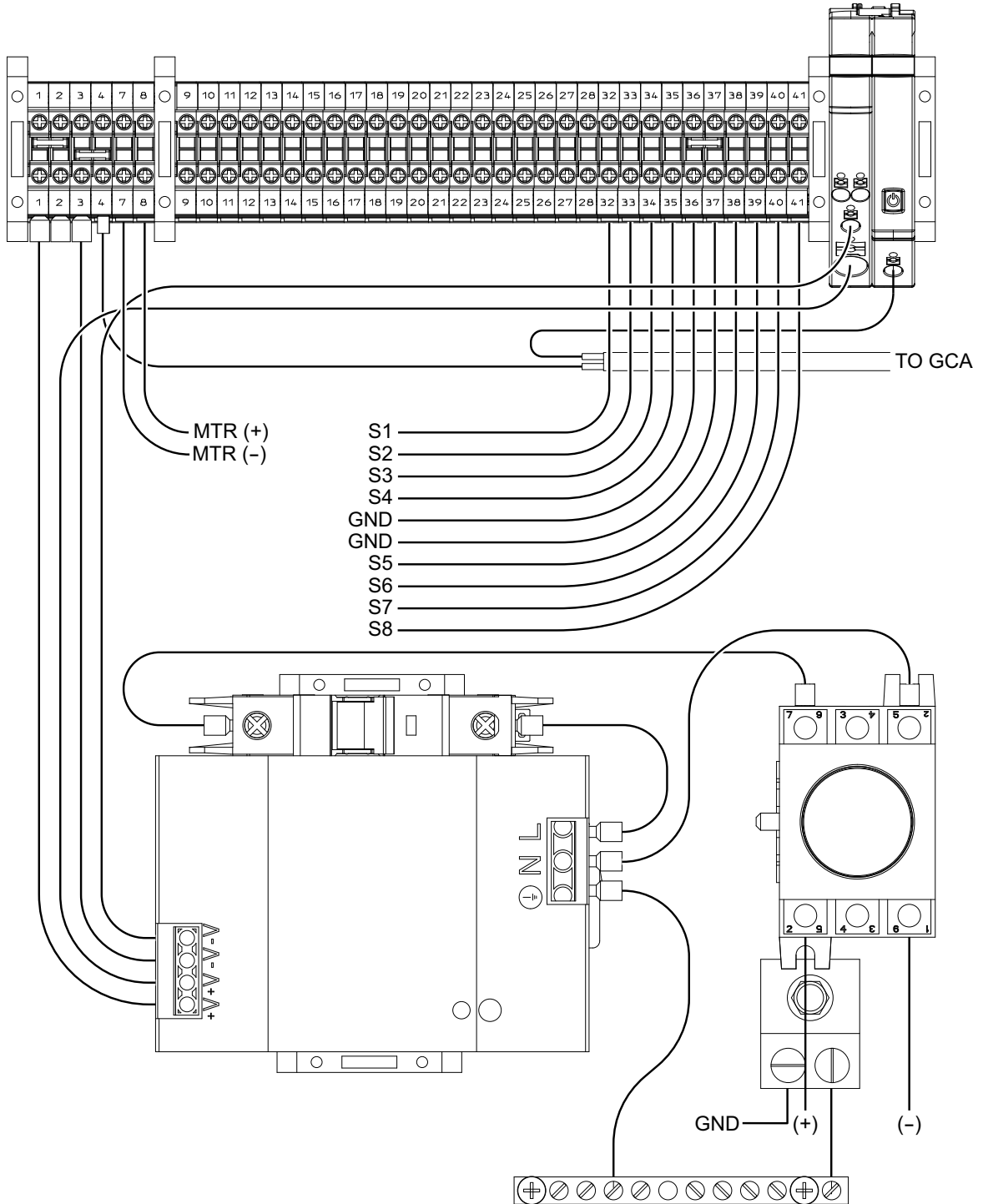
115 VAC IN and 115 VAC OUT

B52M04 configuration CI-A1A-0x00-0M is shown



115 VAC IN and 24 VDC OUT

B52M08 configuration CI-A1A-0300-2M is shown



Troubleshooting



Problem	Cause	Solution
System stops running	Power is disconnected	Confirm main power is active.
	Circuit breaker is tripped	Reset circuit breaker. Find short if problem persists.

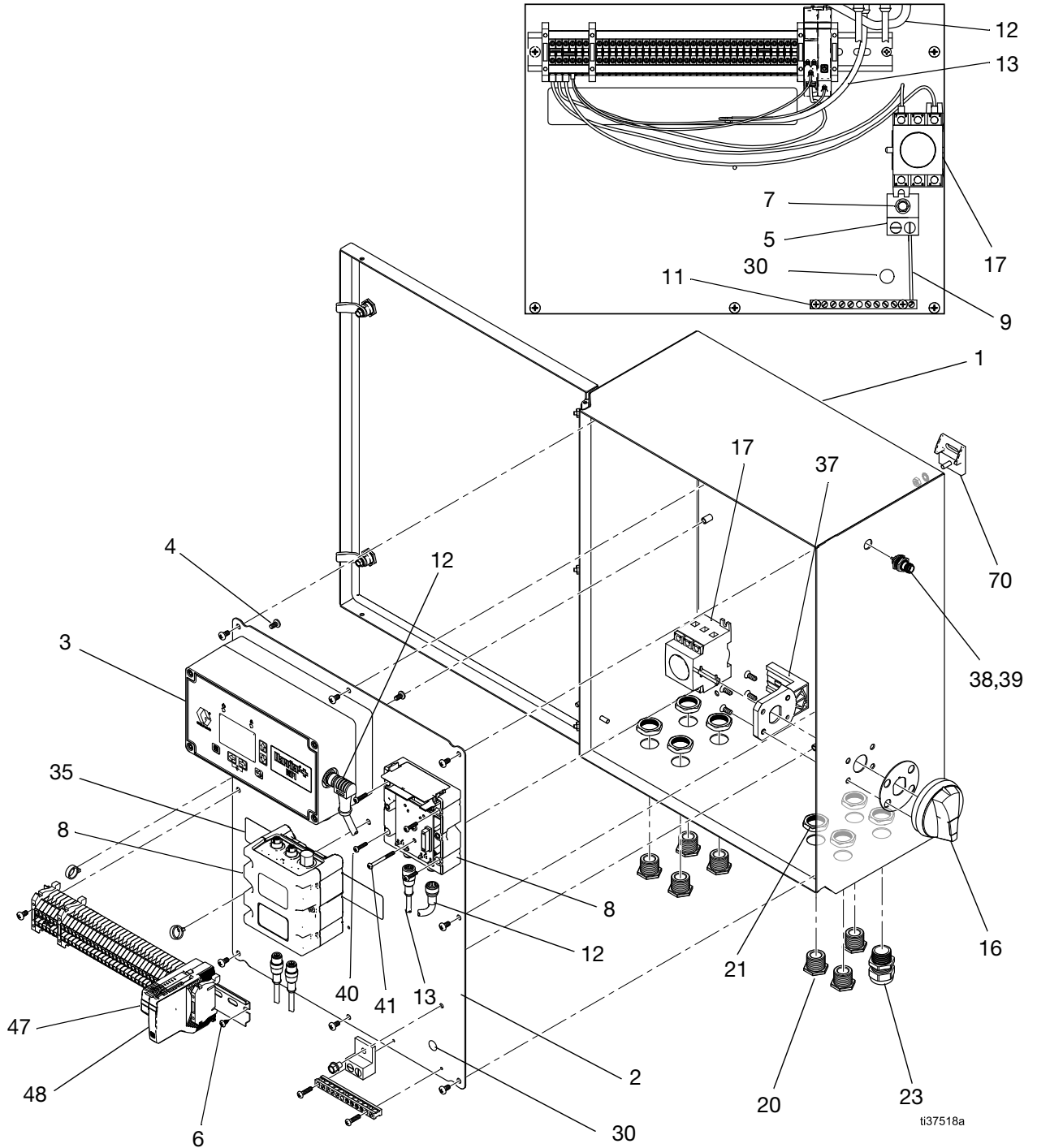
NOTES:

- Refer to your pump manual (see **Related Manuals** on page 3) for troubleshooting specific to the pump.
- Refer to your controller manual (see **Related Manuals** on page 3) for troubleshooting specific to the controller.
- Refer to multiple-point injection valve manifold manual (see **Related Manuals** on page 3) for troubleshooting specific to the valve manifold.

Parts

24 VDC IN and 24 VDC OUT

B52M00 configuration CI-D24-0300-2M is shown



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24 VDC IN and 24 VDC OUT Parts List

Ref.	Part	Description	Qty
1	--	Control Box	1
2	--	Back Panel	1
3	B32833	Harrier+ GSM USA; DC	1
	B32835	Harrier+ GSM International; DC	1
	B32837	Harrier+ SCADA; DC	1
	B32839	Harrier+ CDMA; DC	1
4	--	Socket Head Cap Screw, 10 x .375	4▲
5	--	Ground Terminal	1
6	--	Truss Head Screw, #8	2
7	--	Hex Head Screw	1
8	B33054	GCA Module	1
9	--	Main Ground Wire; 7 in.	1
11	--	Grounding Bar	1
12	B33056	CAN Cable, Female/90 Male; 0.5 m (included with ref. 13)	1
13	B33056	M12 Cable; 1 m (included with ref. 12)	1
16	--	Door Mount Knob	1
17	--	Disconnect Switch	1
18	--	12 AWG Wire; 24 in., Black (not shown)	1
19	--	12 AWG Wire; 24 in., White (not shown)	1
20	--	Plug, 1/2 in.	7
21	--	Strain Relief Nut	8
23	--	Strain Relief Bushing	1
25	--	Designation Plate (not shown)	1
30▲	186620	Ground Symbol Label	1
35	--	Wire Table Label	1
37	--	External Handle Mounting Bracket	1
38	--	Plug, PG-7	1
39	--	Nut, PG-7	1
40	--	Pan Screw	4
41	--	Pan Machine Screw	1

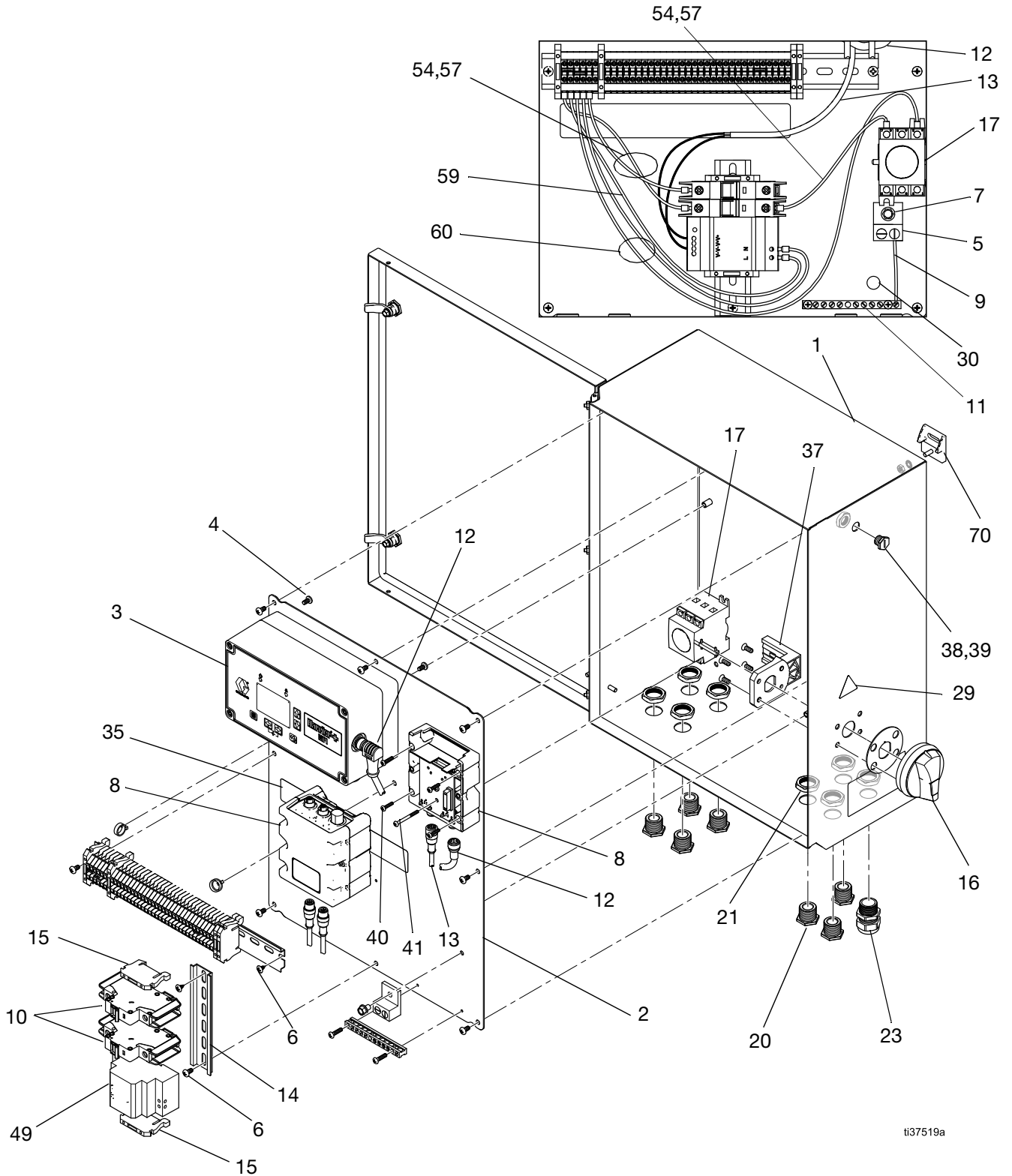
Ref.	Part	Description	Qty
42	--	Fuse, 15 A	2
43	--	Fuse, 25 A	1
47	B33060	Converter Supply Module; DC/DC (included with ref. 48)	1
48	B33060	Circuit Breaker, 4 A (24 VDC) (included with ref. 47)	1
70	--	Mounting Feet	4

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

Find **Kits and Accessories** on page 25.

115 VAC IN and 115 VAC OUT

B52M04 configuration CI-A1A-0300-0M is shown



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115 VAC IN and 115 VAC OUT Parts List

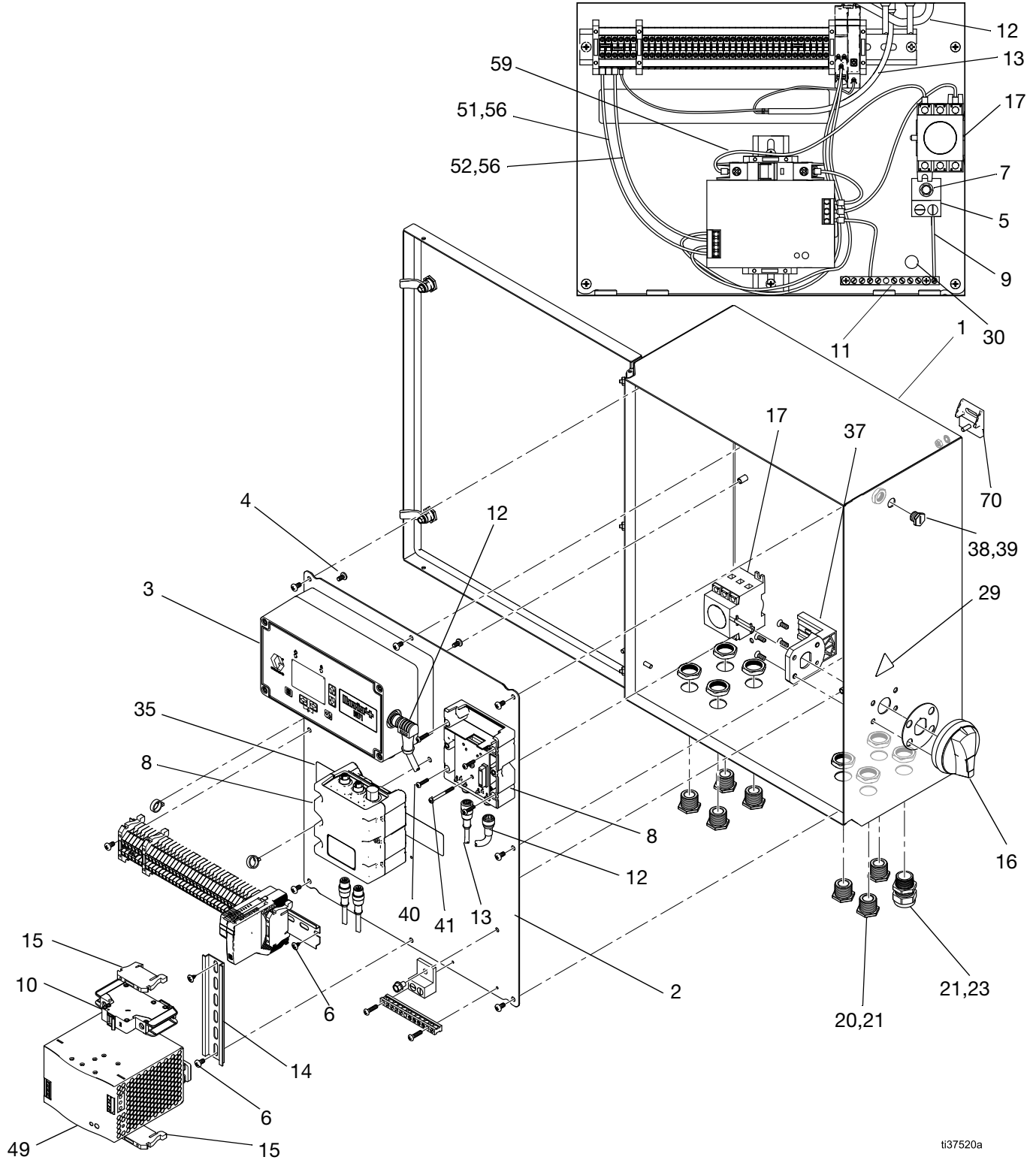
Ref.	Part	Description	Qty
1	--	Control Box (includes ref 4)	1
2	--	Back Panel	1
3	B32834	Harrier+ GSM USA; AC	1
	B32836	Harrier+ GSM International; AC	1
	B32838	Harrier+ SCADA; AC	1
	B32840	Harrier+ CDMA; AC	1
4	--	Socket Head Cap Screw, 10 x .375	4
5	--	Ground Terminal	1
6	--	Truss Head Screw, #8	2
7	--	Hex Head Screw	1
8	B33054	GCA Module	1
9	--	Main Ground Wire; 7 in.	1
10	B33059	Circuit Breaker; 1 P, 6 A, (UL489)	2
11	--	Grounding Bar	1
12	B33056	CAN Cable, Female/90 Male; 0.5 m (included with ref. 13)	1
13	B33056	M12 Cable; 1 m (included with ref. 12)	1
14	--	DIN Mounting Rail	1
15	--	Terminal End Stop Block	2
16	--	Door Mount Knob	1
17	--	Disconnect Switch	1
20	--	Plug, 1/2 in.	7
21	--	Strain Relief Nut	8
23	--	Strain Relief Bushing	1
29▲	15G303	Electrical Warning Label	1
30▲	186620	Ground Symbol Label	1
35	--	Wire Table Label	1
36	--	Disconnect Wire Label (not shown)	1
37	--	External Handle Mounting Bracket	1
38	--	Plug, PG-7	1
39	--	Nut, PG-7	1
40	--	Pan Screw	4
41	--	Pan Machine Screw	1
49	B33057	Power Supply, AC/DC; 24 VDC, 60 W, 2.5 A	1

Ref.	Part	Description	Qty
54	--	Wire; black, 10 in., 12 AWG (includes ref. 57)	3
55	--	Wire; ground	1
57	--	Wire Ferrule; 12 AWG (included in ref. 54)	3
59	--	Wire; black, 24 in., 12 AWG	1
60	--	Wire; white, 24 in., 12 AWG	2
70	--	Mounting Feet	4

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

115 VAC IN and 24 VDC OUT

B52M08 configuration CI-A1A-0300-2M is shown



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115 VAC IN and 24 VDC OUT Parts List

Ref.	Part	Description	Qty
1	--	Control Box (includes ref 4)	1
2	--	Back Panel	1
3	B32833	Harrier+ GSM USA; DC	1
	B32835	Harrier+ GSM International; DC	1
	B32837	Harrier+ SCADA; DC	1
	B32839	Harrier+ CDMA; DC	1
4	--	Socket Head Cap Screw, 10 x .375	4
5	--	Ground Terminal	1
6	--	Truss Head Screw, #8	2
7	--	Hex Head Screw	1
8	B33054	GCA Module	1
9	--	Main Ground Wire; 7 in.	1
10	B33059	Circuit Breaker; 1 P, 6 A (UL489)	1
11	--	Grounding Bar	1
12	B33056	CAN Cable, Female/90 Male; 0.5 m (included with ref. 13)	1
13	B33056	M12 Cable; 1 m (included with ref. 12)	1
16	--	Door Mount Knob	1
17	--	Disconnect Switch	1
18	--	12 AWG Wire; 24 in., Black (not shown)	1
19	--	12 AWG Wire; 24 in., White (not shown)	1
20	--	Plug, 1/2 in.	7
21	--	Strain Relief Nut	8
23	--	Strain Relief Bushing	1
29▲	15G303	Electrical Warning Label	1
30▲	186620	Ground Symbol Label	1
35	--	Wire Table Label	1
36	--	Disconnect Wire Label (not shown)	1
37	--	External Handle Mounting Bracket	1
38	--	Plug, PG-7	1
39	--	Nut, PG-7	1
40	--	Pan Screw	4
41	--	Pan Machine Screw	1
42	--	Fuse, 15 A	2

Ref.	Part	Description	Qty
43	--	Fuse, 25 A	1
47	B33060	Converter Supply Module; DC/DC (included with ref. 48)	1
48	B33060	Circuit Breaker, 4 A (24 VDC) (included with ref. 47)	1
49	B33058	Power Supply; 20 A, 24 VDC, 480 W	1
51	--	Wire; battery, POS	2
52	--	Wire; battery, NEG	2
54	--	Wire; black, 10 in., 12 AWG	2
55	--	Wire; ground	1
56	--	Wire Ferrule; 10 AWG	6
57	--	Wire Ferrule; 12 AWG	2
59	--	Wire; black, 24 in., 12 AWG	1
61	--	Wire; white, 12 in., 12 AWG	1
70	--	Mounting Feet	4

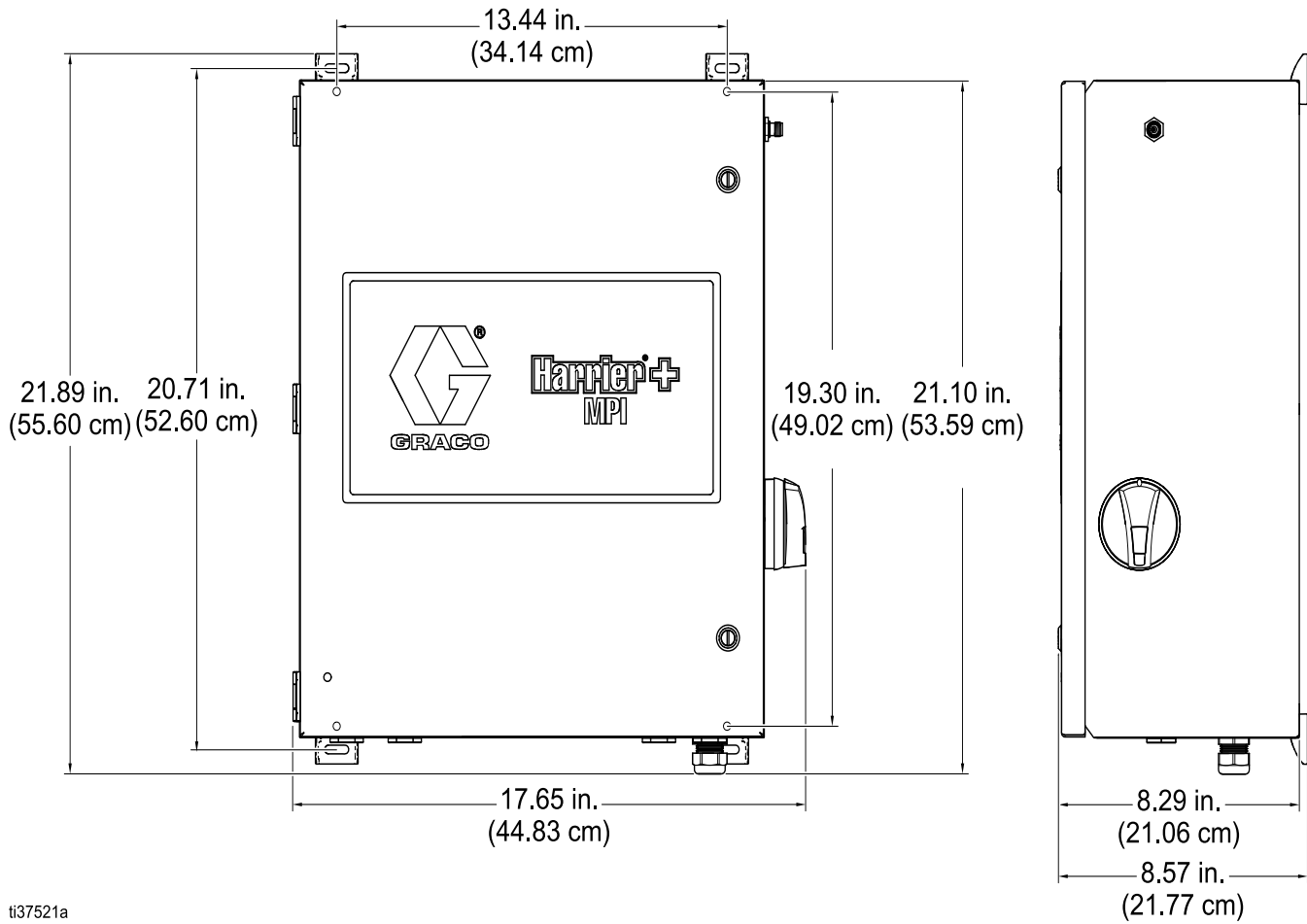
▲ Replacement Danger and Warning labels, tags, and cards are available at no cost.

Kits and Accessories

Part No.	Description
B32795	AC Box Stand
B32073	Stand Anchoring Kit
B32771	Tank Level Monitor Kit
B32072	Pressure Sensor Kit (0-6000 PSI)
B32795	Stand Kit

Dimensions

Multiple-Point Injection Control Box



ti37521a

FIG. 6 Multiple-Point Injection Control Box Dimensions and Mounting Hole Locations

Technical Specifications

Multiple-Point Injection Control Box		
	US	Metric
Nominal Input Voltage (by model, see page 4)		
CI-D24-0x00-2M	24 VDC	
CI-A1A-0x00-0M	115 VAC	
CI-A1A-0x00-2M	115 VAC	
Maximum Input Current (by model, see page 4)		
CI-D24-0x00-2M	25 A	
CI-A1A-0x00-0M	5 A	
CI-A1A-0x00-2M	5 A	
Nominal Pump Output Voltage (by model, see page 4)		
CI-D24-0x00-2M	24 VDC	
CI-A1A-0x00-0M	115 VAC	
CI-A1A-0x00-2M	24 VDC	
Maximum Pump Output Current (by model, see page 4)		
CI-D24-0x00-2M	24 A	
CI-A1A-0x00-0M	4.8 A	
CI-A1A-0x00-2M	24 A	
Maximum Solenoid Output Voltage (all models)	24 VDC	
Maximum Solenoid Output Current (all models)	0.4 A	
Operating Temperature Range	-13 - 131°F	-25 - 55°C
Overall Dimensions (L x W x H)	21.89 in x 17.65 in. x 8.57 in.	55.60 cm x 44.83 cm x 21.77 cm
Weight		
Control Box (all models)	33 lbs	15 kg

California Proposition 65

CALIFORNIA RESIDENTS

 **WARNING:** Cancer and reproductive harm. – www.P65warnings.ca.gov.

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.

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

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Phone: 612-623-6921 **or Toll Free:** 1-800-328-0211 **Fax:** 612-378-3505

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Graco reserves the right to make changes at any time without notice.*

Original instructions. This manual contains English. MM 3A7378

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