ISIMET DLA Controller

Drug Testing Labs

Style 2 W/ Ver 4.41 pcb & Pulse Relay pcb(s)

Installation, Operations, Start-up and Maintenance Instructions

Meets all Standards for Canadian Industrial Control Panels

Application:

The DLA Series Style 2 Controller is a single circuit controller used to operate remotely located 12-vdc latching solenoids for domestic water services in a Drug Testing Laboratory.

This unit is provided with ISIMET latching circuit boards that permits a signal to latch the solenoids ON and OFF, controlling the water supply to the restroom facility.

ISIMET   DLA Series Utility Controller

Installation, Maintenance, Operations, and Startup Instructions

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Patent 6,757,589 B1, 6,990,393 B2
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Although the material contained herein has been carefully reviewed, **ISIMET** does not warrant it to be free of errors or omissions. **ISIMET** reserves the right to make corrections, updates, revisions, or changes to the information contained herein.

Warranty:
ISIMET will repair or replace any defective parts or workmanship of this product for a period of one year from date of installation. The Primary Operating P.C. Board has a two year limited warranty. Damage caused by incorrect installation or improper usage is not warranted. Failure to follow recommended installation, operation, and/or maintenance procedures listed in this manual may void product warranty. Recovery rights shall be limited to the total sum of the amounts paid for the product by the purchaser.

Limits of Liability:
ISIMET's liability shall be limited to costs of repair or replacement parts. The Laboratory Service Panel and Utility Controller are not intended for usage other than those expressly described in this manual. *ISIMET* shall not be liable for damage or injury caused by the improper use of the product.

ISIMET does not warrant against or assume liability for failure of operation or lack of notification to secondary integrated monitoring systems. The system should be thoroughly tested and adjustments made at time of initial operation. Periodic testing should be conducted by the user to assure that all components function and operate according to specifications.

Care should be taken in the installation of this product. *ISIMET* shall not be liable for damage or injury caused from the improper installation of the product.

Warranty is Subject to Compliance with Specific Installation Requirements.

Extended Warranty:
ISIMET will extend the warranty period of the products when installation complies with all start up procedures and that a factory authorized agent either performs or is in attendance during start-up of the system(s). Controllers, Companion and Accessory Panels will be extended to a period of five years from date of installation. Except for *ISIMET* FLA, DLA, RLA and other Units where automation systems are not common, Control System(s) must be interfaced with a building automation system or other *ISIMET* approved time sequencing control for "non-use" system shutdown. All operating components of the system must be *ISIMET* provided. Prescribed routine maintenance procedures must be performed per *ISIMET* recommendations.

All Start-up and Routine Maintenance Documentation shall be per Factory Recommendation.
Further, required start-up and maintenance procedures must be performed as directed upon all affected systems. This warranty shall only become enforceable upon issuance of application specific Extended Warranty Document. A copy of this document should be maintained at all times at the location of the warranted systems.

DISCLAIMER OF IMPLIED WARRANTY:
THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION HEREIN. SELLER DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY OF THE GOODS OR OF THE FITNESS OF THE GOODS FOR ANY PURPOSE, AND BUYER AGREES THAT THE GOODS ARE SOLD "AS IS."

NOTE: Only qualified craftsmen licensed within the governing jurisdiction to perform the work associated with this installation should install and/or service this equipment.
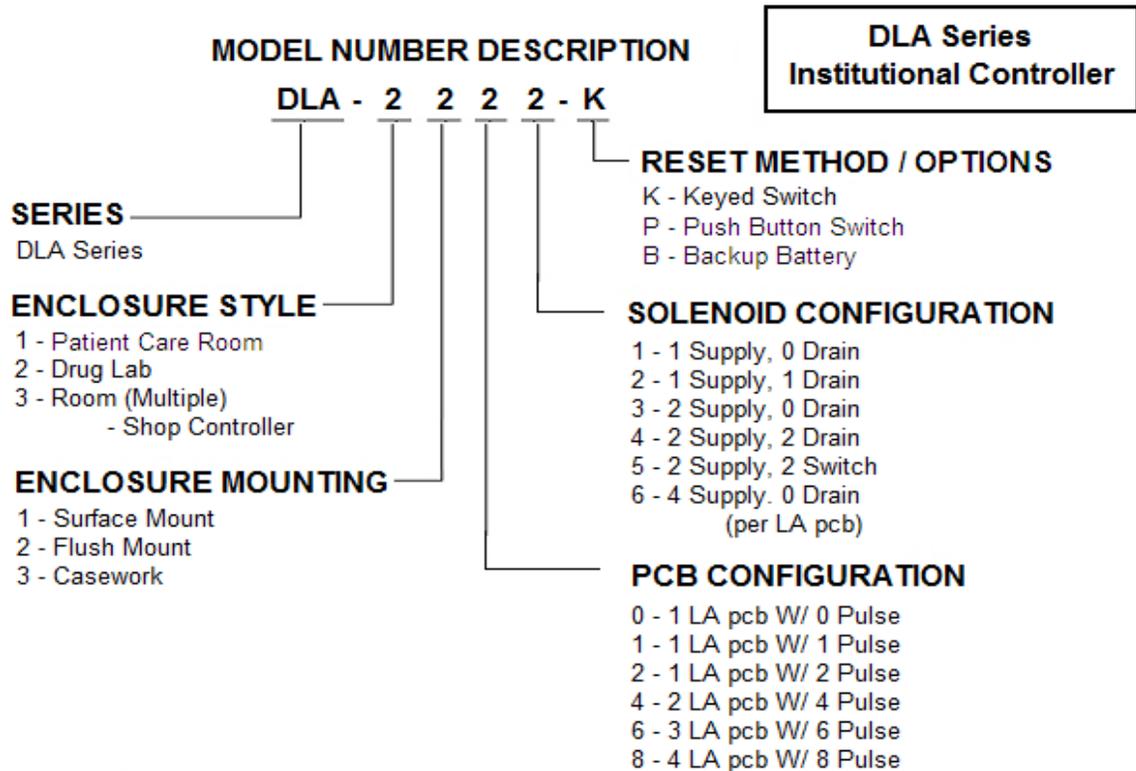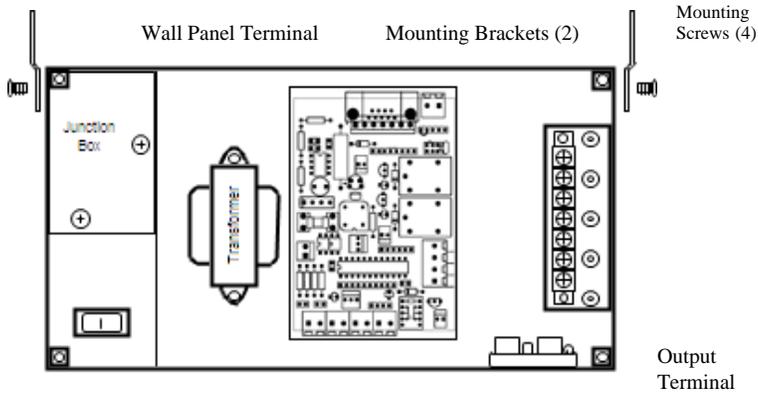
Printed in the United States

Specifications:

Control Panel - Stainless Steel 16 gauge
        9.875 X 16
        9.875 X 18 * where 12 vdc output is provided
Wall Box – 16 gauge powder coated sheet metal
        6.0 X 12.25 X 4.0
        6.0 X 14.25 X 4.0 * where 12 vdc output is provided
         * all dimensions are in inches
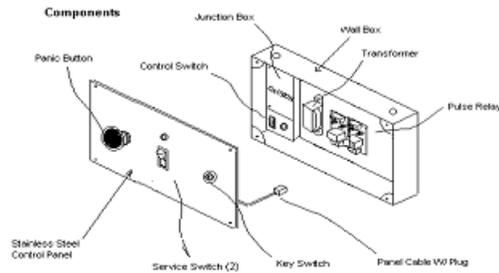
Styles	# LA PCB	# Pulse PCB	# Output Circuits MAX.	Switch Fuse	Output Rating	Transformer	Relay Rating
DLA -1	1	0 or 1	2 @ 24 vac	5 amp	2 amp @ 24 vac	2 amp @ 25	2 amp @ 24 vac
DLA -1	1	2	2 @ 24 vac	5 amp	2 amp @ 24 vac	3 amp @ 25	2 amp @ 24 vac
DLA -2	1	1	2 @ 24 vac	5 amp	3 amp @ 24 vac	3 amp @ 25	2 amp @ 24 vac

MODEL NUMBER DESCRIPTION

DLA - 2 2 2 2 - K

**DLA Series
Institutional Controller**

SERIES
DLA Series

ENCLOSURE STYLE
1 - Patient Care Room
2 - Drug Lab
3 - Room (Multiple)
    - Shop Controller

ENCLOSURE MOUNTING
1 - Surface Mount
2 - Flush Mount
3 - Casework

RESET METHOD / OPTIONS
K - Keyed Switch
P - Push Button Switch
B - Backup Battery

SOLENOID CONFIGURATION
1 - 1 Supply, 0 Drain
2 - 1 Supply, 1 Drain
3 - 2 Supply, 0 Drain
4 - 2 Supply, 2 Drain
5 - 2 Supply, 2 Switch
6 - 4 Supply. 0 Drain
    (per LA pcb)

PCB CONFIGURATION
0 - 1 LA pcb W/ 0 Pulse
1 - 1 LA pcb W/ 1 Pulse
2 - 1 LA pcb W/ 2 Pulse
4 - 2 LA pcb W/ 4 Pulse
6 - 3 LA pcb W/ 6 Pulse
8 - 4 LA pcb W/ 8 Pulse

NOTES:
Style 1 is limited to 4 Solenoids W/ PCB Configuration 0, 1 & 2 only.
Style 2 is limited to 4 Solenoids W/ PCB Configuration 0 & 1
Styles 1 & 2 are provided W/ Monitoring Output Circuits.
   Except Style 1 that is provided W/ 2 switches.
Style 3 is intended for use in multi-patient room environment where
   water supplies are to turn ON & OFF remotely.
PCB Configuration 0 is intended for use with ISIMET S-Series enclosures
   having Latching Solenoids and Pulse PCB included.
All solenoids for DLA Units should utilize ISIMET 12 VDC Latching Coils.
PCB Configurations 4, 6, & 8 also indicate the number of switches for
   specific patient rooms.

Wall Panel Terminal   Mounting Brackets (2)   Mounting Screws (4)

Junction Box

Transformer

Output Terminal
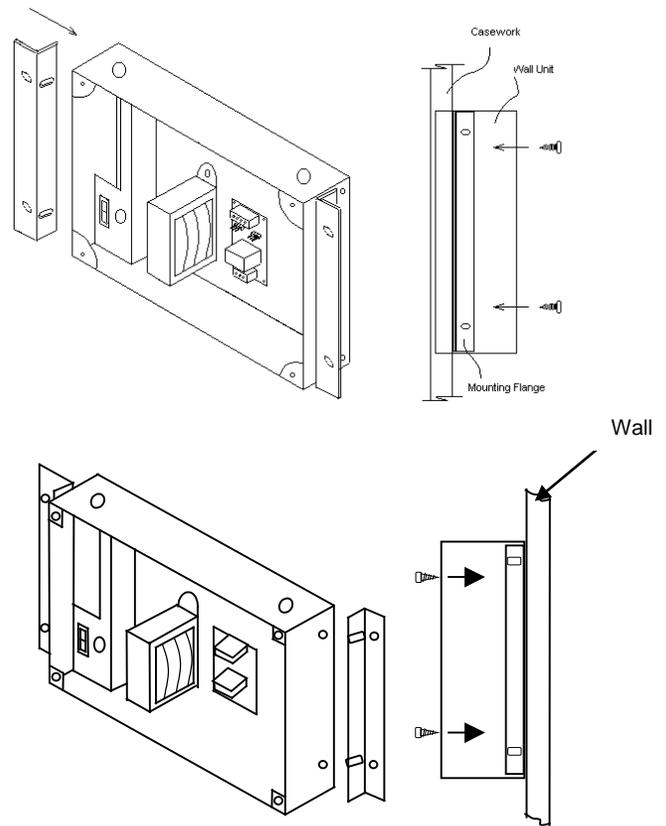
Mounting Instructions: Flush Wall Mount

Two mounting flanges with screws are provided with the unit. Attach flanges as shown. Flanges can be affixed to any two corners of the unit. Then, fasten unit between two (2) wall studs. The face of the box should be even with the face of finished wall surface. After mounting unit, protect interior of box from construction debris.

CAUTION: Provided mounting hardware must be used.

Mounting Instructions: Casework Mount

Two mounting flanges with screws are provided with unit. Holes are slotted to permit adjustments for variations in cabinet material thickness. Attach flanges as shown in figure above. Make cutout in desired location in casework to permit wall unit to pass easily into opening. From within the cabinet fit into opening and fasten unit to back of casework. Face of wall box should be even with face of cabinet. After mounting unit, protect interior of box from construction debris.
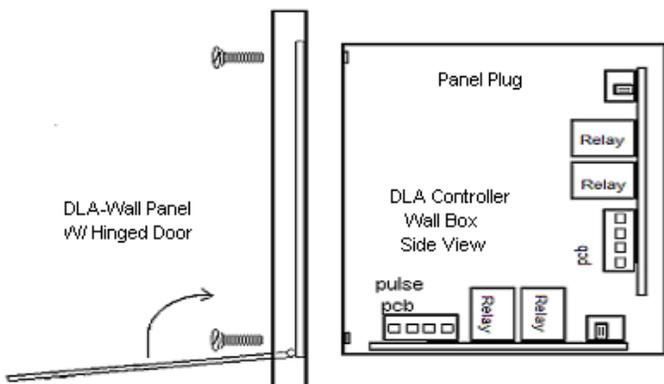
CAUTION: Provided mounting hardware must be used.

Casework

Wall Unit

Mounting Flange

Mounting Instructions: Surface Mount

In order to surface mount the unit, it is necessary to attach the provided brackets to the rear of the housing. Care should be taken to verify that the mounting means securely fastens the unit to the wall surface. A stainless skirt is provided in order to conceal the wall box from view.

CAUTION: Provided mounting hardware must be used

Wall

Panel Plug

Relay

Relay

DLA-Wall Panel W Hinged Door

DLA Controller Wall Box Side View

pulse pcb

Relay   Relay

Mounting the Wall Panel:

- Verify that Unit is wired with junction box cover in place.
- With the Door open, position the Wall Panel over the Wall Box as shown.
- Holding panel in front of box, affix panel to box using four (4) 8-32 stainless screws
- Close the panel and lock.

CAUTION! Do not install the panel until all wall finishes are complete.

ISIMET - DLA Controller
Drug Testing Labs
Style 2
Short Circuit Rating - 1 kA

120-vac Line
BLK
LINE
Control Switch
Ground
GRN
WHT Neutral
BLK
LOAD
LINE
120-vac
24-vac

Violet
18-AWG
12 vac from
center tap
@ Transformer

Red
Blue
Orange

24-vac Output   24-vac Output

24-vdc Control Relay
5-vdc Latch Relay
5-vdc Latch Relay
PR VER 3.8 P/N 4999
MOV1 CON1   MOV2

WHT   BLK   12-vdc Output

1	Orange	Lamp Inactive
2	Blue	Lamp Active
3	Red	24 vac COM
4	BLK	ON W/ Latch
5	WHT	
6	BLK	ON W/ Un-Latch
7	WHT	

Replacement Fuse Schedule
FUSE 1 250 v - 3 amp slowblow
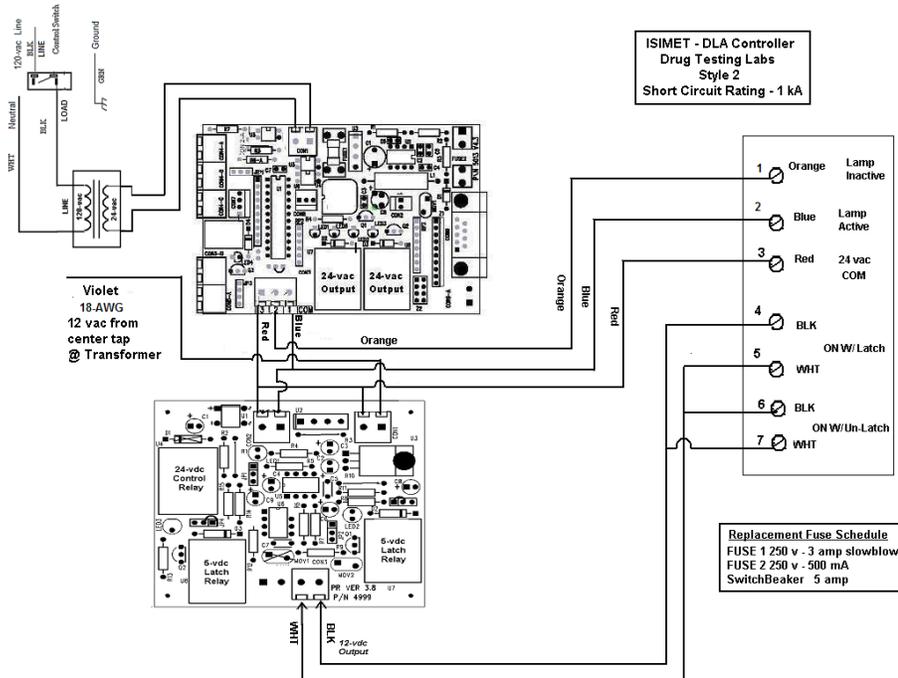FUSE 2 250 v - 500 mA
SwitchBeaker 5 amp

Figure 1:
Utilized when two (2) supply solenoids
are provided without drain-down valves.
Connect both supply valves to pins 4 & 5.

or

Utilize when one (1) supply and one (1)
drain-down solenoid is provided.
Connect supply valve to pins 4 & 5.
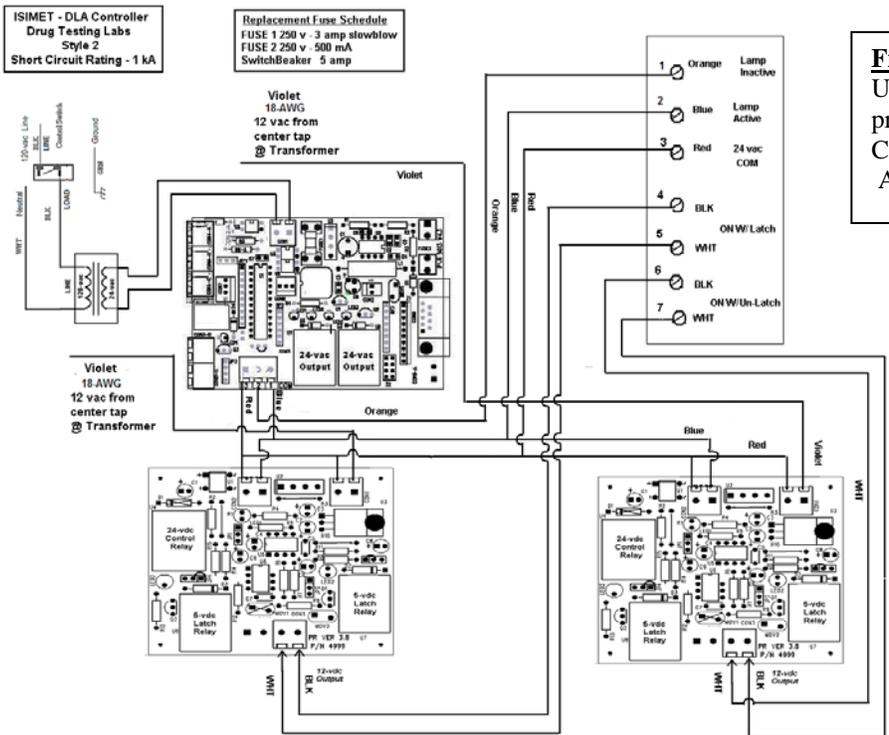Connect drain-down to pins 6 & 7.

ISIMET - DLA Controller
Drug Testing Labs
Style 2
Short Circuit Rating - 1 kA

Replacement Fuse Schedule
FUSE 1 250 v - 3 amp slowblow
FUSE 2 250 v - 500 mA
SwitchBeaker 5 amp

Violet
18-AWG
12 vac from
center tap
@ Transformer

120-vac Line
BLK
LINE
Control Switch
Ground
GRN
WHT Neutral
BLK
LOAD
LINE
120-vac
24-vac

Violet
18-AWG
12 vac from
center tap
@ Transformer

Violet
Orange
Blue
Red

24-vac Output   24-vac Output

Red
Orange
Blue
Red
Violet

1	Orange	Lamp Inactive
2	Blue	Lamp Active
3	Red	24 vac COM
4	BLK	ON W/ Latch
5	WHT	
6	BLK	ON W/ Un-Latch
7	WHT	

24-vdc Control Relay
5-vdc Latch Relay
WHT BLK 12-vdc Output

24-vdc Control Relay
5-vdc Latch Relay
PR VER 3.8 P/N 4999
MOV1 CON1
WHT BLK 12-vdc Output

WHT
BLK

Figure 2:
Utilized when two (2) supply solenoids are
provided with two (2) drain-down valves.
Connect both supply valves to pins 4 & 5.
And both drain-down valves to pins 6 & 7.
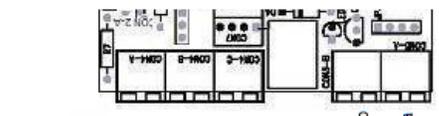
CON 4
Remote Panic
"ems" Input 24-vac/dc max.
Alarm Input 24-vac/dv max.
Panic Output
CON 5-b
CON 5-a
CON3-A CON3-B CON3-C CON3-B CON3-A
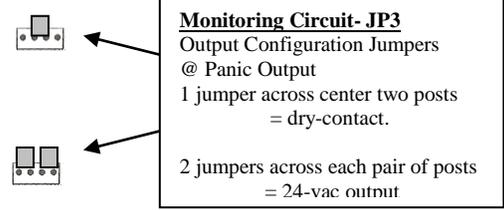
Monitoring Circuit- JP3
Output Configuration Jumpers
@ Panic Output
1 jumper across center two posts
   = dry-contact.

2 jumpers across each pair of posts
   = 24-vac output

Output Circuit Terminal:
The solenoids provided are ISIMET S-200 or S-220 Series General Service Brass Valves with 12 vdc coils.
These coils are polarized and must be connected correctly to the Output Terminal in order to function as intended.
Connect Supply Solenoids to the 'ON w/Latch Terminals.
Connect Drain-down Solenoids (where provided) to the ON w/Un-Latch Terminals.
Make connections to 'BLK' and 'WHT' pins to match instructions provided with the solenoids that are similarly color coded.
Piping and wiring for solenoids should follow details provided with the solenoids.

Pins 1, 2, and 3 are provided for connection to an optionally provided 24v beacon. This beacon indicates whether the facility is occupied or non-occupied.

Installing the Electrical Conduit:
Knockout holes for connecting the electrical conduits are located at the top left and right of the Wall Box.
* Connect rigid conduit for the required 120-vac electrical service.
* Connect conduit for the operating power to the upper left top of the enclosure at the junction box.
* Connect conduit for the operating power for the output to the upper right top of the enclosure.

Wiring the Unit:
Important!
Verify that the electrical supply is disconnected prior to connecting wiring to the DLA Controller.

To wire the Controller:
1. Remove the junction box cover.
2. Make final connections to the 120-vac electrical service to wiring within the junction box. Verify that line wiring (Black), neutral (White), and ground wire (Green) are correctly connected.
   Minimum recommended wire size is 14 AWG.
3. Replace the junction box cover before activating or testing the unit.

Optional Input Control circuit:
Alarm Input: 24-vac/vdc active OFF. Refer to jumper configuration chart above. Make connection of this optional wiring at CON 4.

Optional Remote Panic Input Connection:
An optional input from an ISIMET Remote Panic Assembly can be connected to the PCB at CON 4-a.

Optional Panic Output Terminal:
A configurable Panic output is activated at CON 5. See configuration chart and location of this connector on page 5.

Connection of the Wall Panel Plug:
The Unit is equipped with a 9 pin d-sub connector
* Turn counter-clockwise the two retaining clips at the top of the Panel, and open.
* Insert plug onto circuit header on PCB.
* Turn Power **ON**.
* Close the panel and lock.
CAUTION! Do not install the panel until all wall finishes are complete. Verify that the plug is configured correctly. Incorrect insertion will prevent operation of unit.

Important!
All local codes must be followed when installing the unit and connecting the conduit to the service panel and making wiring connections. Do not install wiring or cable for integrated systems, remote panic assemblies or other interface wiring within conduit for either 24-vac control or 120-vac line voltage. Each wiring system

including outputs should be housed in independent conduit and not bundled with wiring for other systems. Failure to comply with these wiring specifics may create transient voltage at the pc board and cause system malfunction and/or failure.

Operation of the Unit:

With the panel service switch ON, engage the Key-switch. The circuit will activate and the panel Green LED will illuminate to indicate that the water services to the testing restroom are active. After turning a switch OFF, it will be necessary to re-engage the Key-switch in order to reactivate the services. The Red LED will illuminate when the circuit is OFF.

Pressing the panic button will deactivate the services. All Panel lights should illuminate with Panic.

Once in the Panic Mode the Key-switch must be engaged in order to reactivate service. The Alarm Signal must be withdrawn prior to reactivation.

This unit utilizes latching solenoids that pulse ON with circuit active to open the water supply and pulse OFF with circuit inactive to close it. Where provided, secondary solenoid(s) are provided that pulse ON when inactive in order to provide drain-down of supply piping.

Equipment Maintenance:

- ❑ The DLA Series Controller should have semi-annual inspections.
- ❑ **ISIMET** recommends that you periodically conduct a brief test of the system to verify that the output circuit performs as intended.
- ❑ If examination of the unit indicates tampering, **ISIMET** recommends that you first review the installation and wiring portions of this manual prior to placing the unit in service.
- ❑ **ISIMET** recommends that piping systems be thoroughly flushed and cleaned and tested for leaks prior to placing the system into use. Periodic testing of these solenoids will assure that the piping system continues to function properly.

If you have any questions regarding the operation and maintenance of the DLA Controller, please contact an **ISIMET** Service Representative.

The enclosure has a NEMA 1 rating. It is not intended for use in wet areas. Exercise caution to prevent exposure of the interior compartment of the enclosure to moisture. If moisture is present within the enclosure, **ISIMET** recommends that the control switch be turned OFF, power be disconnected from the unit until the source of the moisture is determined, and all moisture is removed from the compartment.

The electronic controller (PCB) is sensitive to dust and other air-borne particles. Do not expose the interior compartment of the enclosure to dust. During the semi-annual inspection, if dust or other material is present, **ISIMET** recommends that you remove all foreign matter before operating the unit.

If the Unit fails to operate, **ISIMET** recommends that you check the power supply to the unit. With the control switch in the ON position, LED Fuse 1 should illuminate. If not, check the service breaker and PCB fuses.

If the fuse is not damaged and the unit still does not function, contact ISIMET or your local Service Representative.

CAUTION:
ISIMET DOES NOT recommend that service to emergency and/or safety devices, such as emergency showers and eyewashes, be controlled by the DLA Controller System or Solenoids. Such devices are intended to operate independent of restrictive authority operation, as is the case with the design of this unit. ISIMET makes available components for the monitoring of such safety devices. Please contact ISIMET regarding any questions regarding this type of application.

ISIMET believes that sole and local authority means that the primary operator or the instructors should have the sole authority to start and stop the utility services within the immediate area of use during normal usage. This should distinguish this type of operating environment from that where a single emergency shut-down device is located remotely from the areas of use.

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