

ISIMET

DLA Controller

Patient Care Facility

Multiple Room Configuration

Style 3 W/ Ver 4.41 pcb & Pulse Relay pcb(s)

**Installation, Operations, Start-up and
Maintenance Instructions**



Application:

The DLA Series Style 3 Controller is a multiple circuit controller used to operate remotely located 12-vdc latching solenoids for domestic water services to restrooms in multiple Patient Rooms within a Patient Care Facility.

This unit is provided with ISIMET latching circuit boards that permit a 24-vac signal to latch the solenoids ON and OFF, controlling the water supply to the restroom facility.

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ISIMET DLA Series Utility Controller

Installation, Maintenance, Operations, and Startup Instructions

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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 DLA Controller is 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

General Product Information

Construction

All electrical components are pre-assembled, wired, and mounted. The Electronic Controller is assembled within the Utility Controller compartment.

Caution: Do not drop the assembly or expose it to the environment.

Assembly, Compliance and Registration Information

All DLA Controllers are assembled to permit limited field configurations of the operating system. Options requiring additional instructions and/or assembly parts are shipped within the component package. Refer to Equipment Specifications to verify that ALL components conform to these requirements.

The output circuits of the DLA Controller provide 12 VDC pulse control signals to solenoids for domestic water utilities. *ISIMET* provides a full line of Companion Enclosures and fittings. It is recommended that these items be included in the system design, but when the installer elects to provide these fitting from other sources compliance with Product Specifications should be confirmed prior to installation.

Enclosed with this Manual is a separate registration form. The front of the form is for equipment warranty registration. The back is a copy of the equipment start-up checklist. To ensure proper warranty of the product, it is important that you complete both sides of the form and either mail or fax to *ISIMET* within 30 days of installation.

Pre-Installation Information

The DLA Controller is not provided with a protective cover for the enclosure opening if the door is to be removed for protection during construction phases of the facility so that no debris enters the enclosure. Protection should in these cases be field provided. A wrap protects each PCB. Care should be taken to assure that PCB covers are not removed until final assembly and testing.

Locating and Positioning the DLA Controller

Prior to installation, verify ADA (Americans with Disabilities Act) dimensions and compliance requirements. For best results: Mount the vertical center of the service switches on the Wall Panel to the ADA-required maximum height.

Trim Kit (Flush Mount only)

A Trim Kit is provided with flush mounted units, and is provided with separate installation instructions. Verify installation requirements prior to installation of the unit. Store the Trim Kit in a protected location, out of the weather, until installation.

Upon Receipt of Product

Each DLA Controller is assembled specifically for an individual application. All primary components have the same serial number.

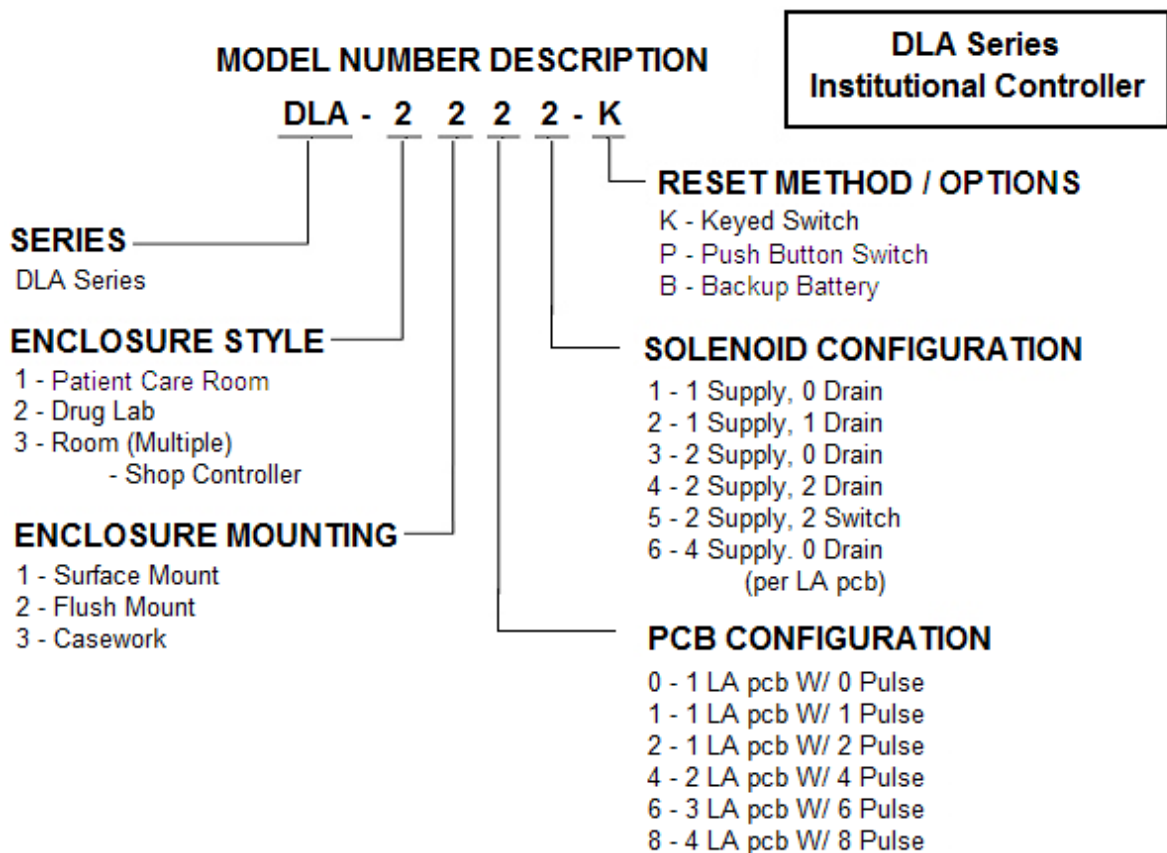
Check components for damage. Notify *ISIMET* immediately of any damaged components. Check package and product name plates to determine if all components were shipped correctly. Store uninstalled components in a protected environment, out of the weather.

Enclosure Specifications and Dimensions:

The DLA Series Style 3 Enclosure thru 4 circuits is 16 X 14 X 6 plus 0.625” door flange, for units with 6 to 8 circuits the enclosure is an 18 X18 X 6. Custom fabrications are available to provide greater than 8 circuits within a 24 X 24 X 6 enclosure. Flush Trim adds 3.5 inches to both height and width Wall Surface dimensions. The NEMA 1 enclosures may be either surface or flush mounted. Labeling on the DLA Controller door panel is customized to the specific purpose.

Styles	# LA PCB	# Pulse PCB	# Output Circuits MAX.	Switch Fuse	Output Rating	Transformer	Relay Rating
DLA -3	2	2	4 @ 24 vac	15 amp	4 amp @ 24 vac	4 amp @ 25	4 X 2 amp @ 24 vac
DLA -3	3	6	6 @ 24 vac	15 amp	6 amp @ 24 vac	2- 3 amp	6 X 2 amp @ 24 vac
DLA -3	4	8	8 @ 24 vac	20 amp	8 amp @ 24 vac	2-4 amp @ 25	8 X 2 amp @ 24 vac

Output fuse on PCB, FUSE 1 is Slow Blow. PCB circuit fuse, FUSE 3 is 500 mA Fast Acting



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.

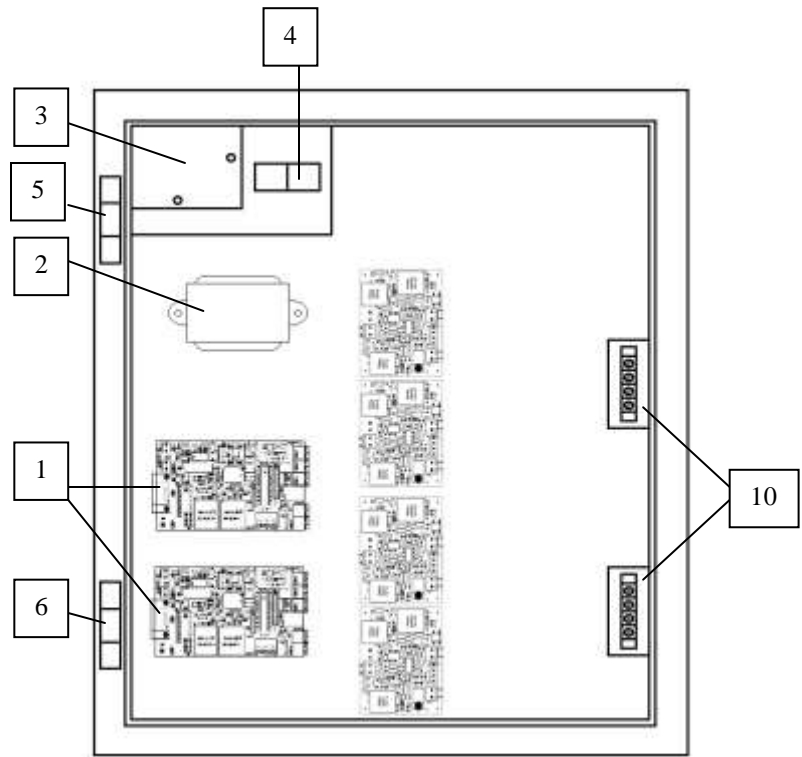
PCB Configurations 4, 6, & 8 also indicate the number of switches for specific patient rooms.

DLA Controller Illustrations and Parts Lists

Figure 2 - DLA Controller

DLA Controller Primary Components:

- 1 - Electronic Controller PCB
- 2 - 24 VAC Transformer
- 3 - Wiring Junction Cover
- 4 - Control Switch
- 5 - Upper hinge pin assembly
- 6 - Lower hinge pin assembly
- 7 - Recess Mounting Flanges (4) (See Figure 4)
- 8 - Surface Mounting Flanges (2) (See Figure 5)
- 9 - 8-32 Self-Starting Screws (See Figure 4)
- 10- Output Terminals



Fuse Specifications @ each pcb

Fuse 1	5 X 20m	2 Amp Slow Blow	PC Board (typical)
Fuse 3	2 AG .177" X .57"	500 mA	PC Board

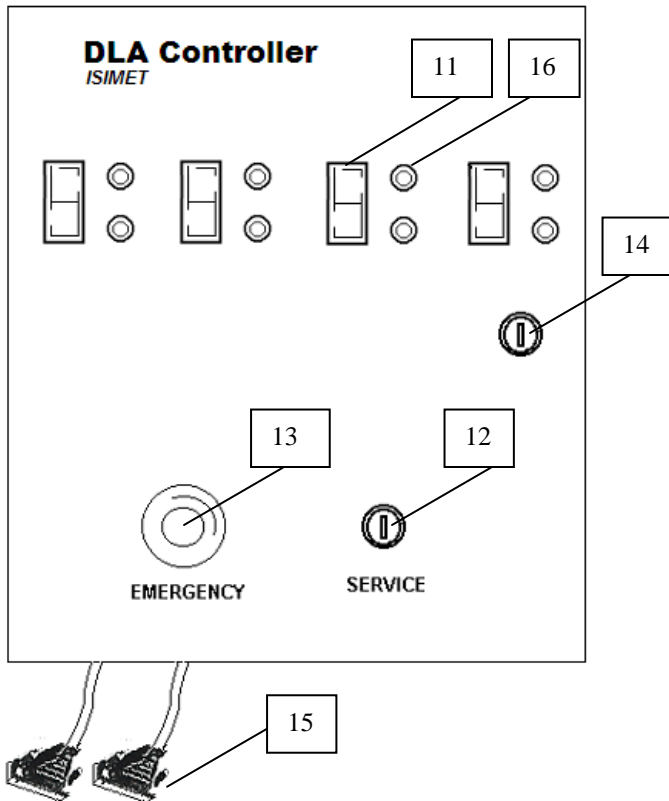


Figure 3 - Typical Door Panel

Switch layout depends upon the required number of output circuits.
Four (4) shown W/ two (2) cables

Door Panel Primary Components:

- 11 - Service Switch (4)
- 12 - Keyed Switch
- 13 - Panic Button
- 14 - Door Panel Keyed Lock
- 15 - Door Panel Plug See Fig. 9
- 16 - LEDs (8)

Installing the DLA Controller

CAUTION: Provided mounting hardware must be used.

There are two options for mounting the DLA Controller: Flush Mounted and Surface Mounted. Note: Mounting instructions for custom assemblies including circuits in excess of 12 outputs are provided with the unit separately.

Flush Mounted (Figure 4)

Prior to installation:

- The Controller easily mounts between two wall studs within a minimum 6" wall cavity for flush mounting. If stud spacing is greater than that required for the mounting of the controller, add studs to insure a secured mounting.
- The studs should be facing to facilitate securing the controller.
- Predetermine wall finish so that the face lip of the enclosure aligns flush with the finished wall surface.

To install:

1. Using the self-starting screws (13), mount the flanges at each side and at the top and bottom of the enclosure.
2. Attach the enclosure to the wall studs with field-provided sheet metal screws. (See Figure 4)
3. Level the Controller.

Notes:

- The Door Panel, when mounted onto the Controller, should protrude beyond the wall surface about ¼". Care should be taken at installation time to ensure that this occurs.
- A Flush Mounting Trim Flange is provided with each flush mounted unit. Separate installation instructions and hardware are included with this kit. Flush trim adds 3.5 inches to both Height and Width Wall Surface dimensions.
- It is the responsibility of the installer to verify finish wall dimensions.

Surface Mounted (Figure 5)

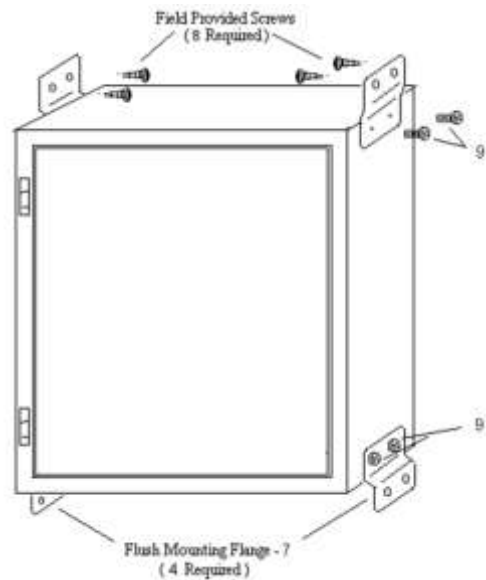
Prior to installation:

- Wall finishes must be complete.
- The wall cavity must have sufficient backing or support to ensure a firm mounting of the controller to the wall surface.

To install:

1. Secure the surface mount flanges to the back of the enclosure with the self-starting screws (13).
2. Use the field-provided screws to attach the enclosure by the flanges to the wall surface.
3. Level the Controller.

Figure 4 - Flush Mounted

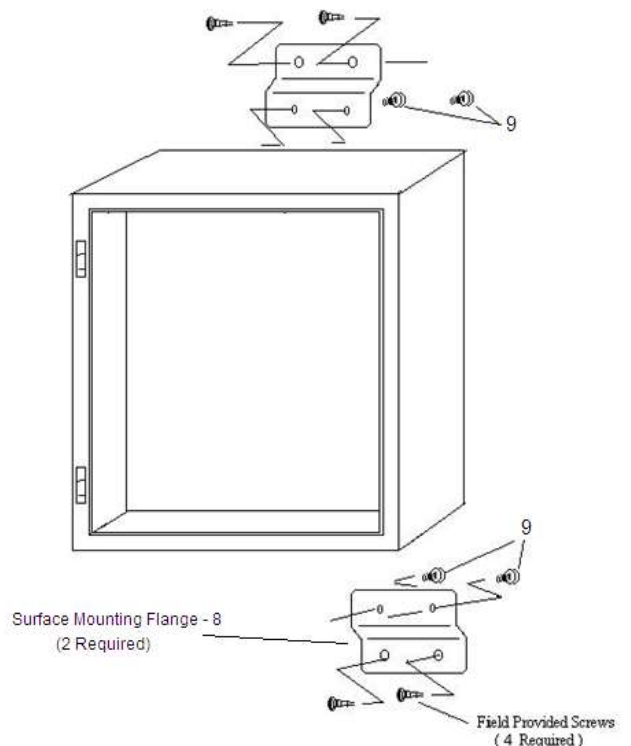


*For best Flush Mounting results, recess face of enclosure's lip ½" behind wall finish

Clearance around Enclosure:

Care should be taken to allow ½" clearance from wall framing and sheet-rock or other wall surface material around the outer surface of the unit to permit the trim to be properly installed.

Figure 5 - Surface Mounted



Installing the Electrical Conduit at the DLA Controller

Several knock-out holes for connecting the conduits are located at the top and at each side of the DLA Controller.

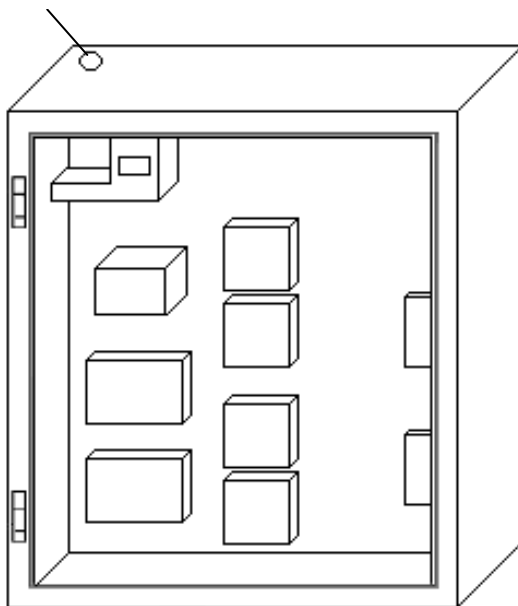
- Connect rigid conduit for the required 120 VAC electrical service at the top left or side opening as indicated in Figure 6.
- Connect conduit for integrated services such as “EMS” (Energy Management System) and building alarm at the top of the enclosure.
- Connect conduit for the controlled utility services to the upper right top or right side of the enclosure.

Important!

- **All local codes must be followed when connecting the conduit to the service panel.**
- 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 should be housed in independent conduit and not bundled with wiring for other systems.

Connect Conduit for
Electrical Service to
Top Knock-out Hole

Figure 6 –DLA Controller Knock-out Holes



NOTE: This Unit is provided with an Output Terminal per pcb as shown in Figure 2.

Panel holes for output circuits, remote panic assemblies and other integrations must be field provided.

Wiring the DLA Controller

Important!

Verify that the electrical supply is disconnected prior to connecting wiring to the Controller.

To wire the DLA Controller:

1. Remove the junction box cover from the panel surface.
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.

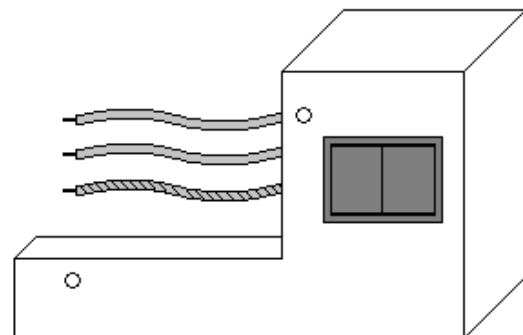


Figure 7 - Junction Box

Removing and Reinstalling the Door Panel

If the Door Panel is to be removed from the unit, refer to step by step instructions below.

In reverse order, perform steps 1 through 4 to remove the Door Panel. If the Panel is to be removed during the construction phase, a field provided protective cover should be securely placed over the enclosure opening.

Installing Flush Door Trim

If the DLA Controller is Flush Mounted, a Trim Kit is provided separately. Refer to installation directions provided with that component.

To install the Door Panel **Figure 8**

To install the Door Panel on the Enclosure:

1. Position the door at 90° – 100° of enclosure.
2. Slide top hinge pin onto fixed hinge post at top of door.
3. Slide lower hinge pin toward lower spring hinge mechanism with hinge pin lever in retract position.
4. With lower hinge pin in position, turn hinge pin lever outward and down, then turn inward to the extend lock position.

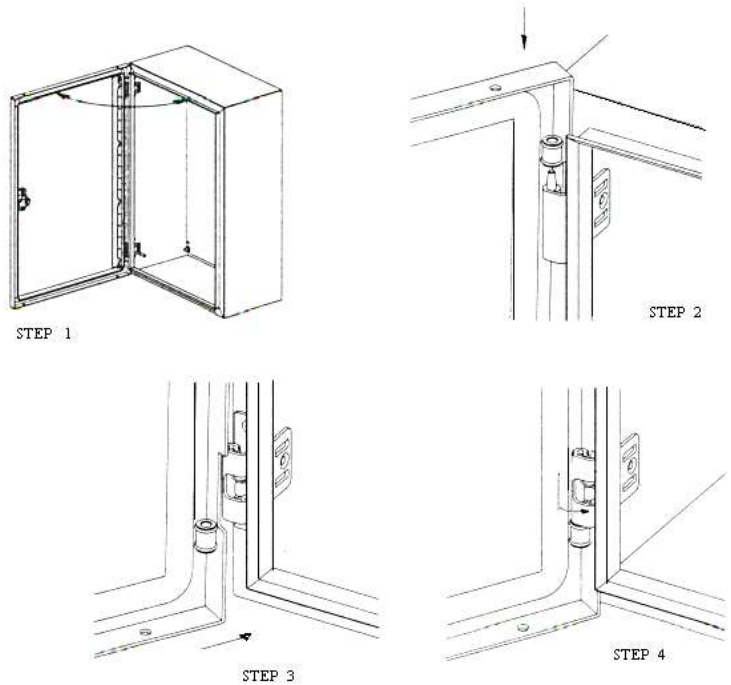
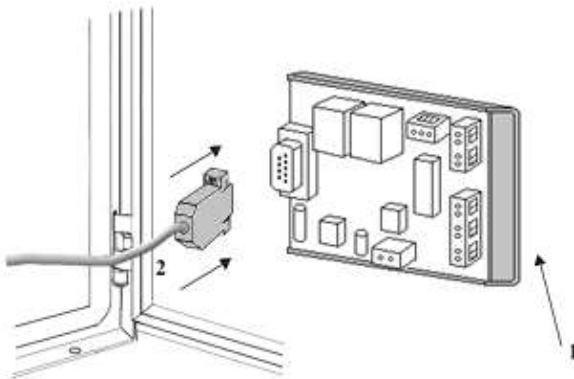


Figure 9



Connecting the Door Cable to the PCB:

Units are provided with 9 pin sockets for connection of door panel switches to the individual pcb. Units have wiring harnesses from switches to individual PC boards labeled accordingly.

NOTE: This image shows the wiring for each LA PCB arrangement. The quantity of these boards will differ for each unit.

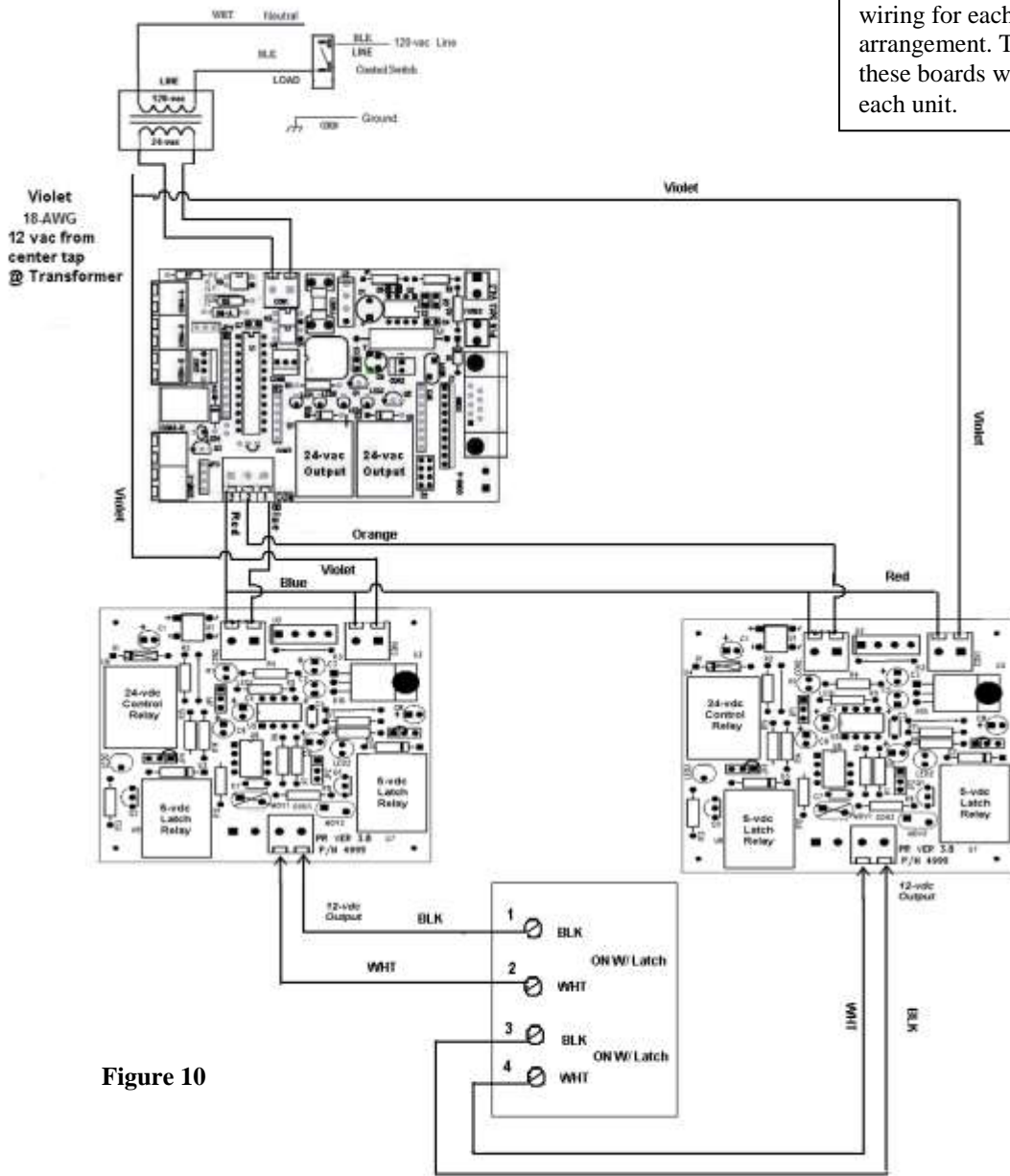


Figure 10

Output Circuit Terminal

All DLA Controller should utilize 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. 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. Do not connect more that 2 ISIMET provided latching solenoids to the output Terminal.

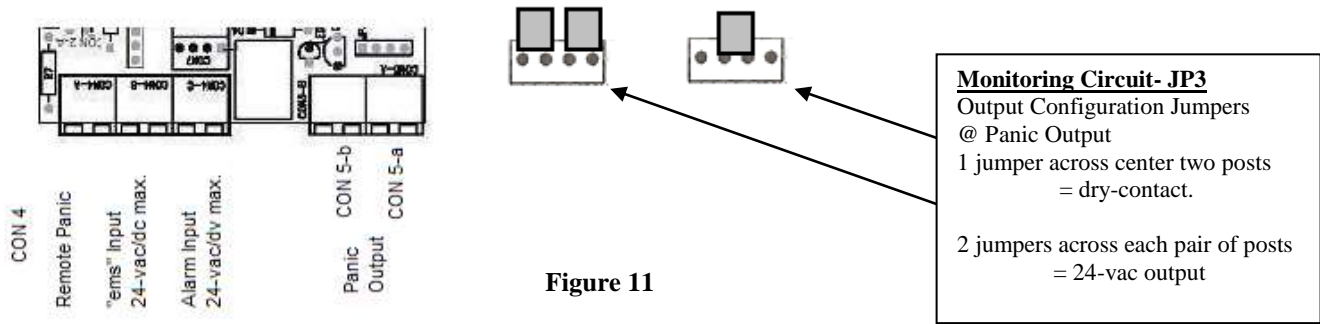


Figure 11

WARNING!! Other pcb Jumper placements

Jumpers at JP 1, JP 4 and JP 5 are factory placed in order to configure the circuit board to specific functions for the Controller. Removal and/or re-placement may cause the unit to malfunction.

- 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.

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 Figure 11.

Important!

All local electrical 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.

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.

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 patient 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.

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 ISIMET or your local 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 1 on each LA PCB 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 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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