



INSTRUCTIONS

SWX-100-PED EXTERNAL SWITCH



INTRODUCTION

The Dairyland Isolation Switch, model SWX-100-PED, is designed to be externally mounted to the cover of Dairyland pedestal models including the current MTP-36 pedestal as well as older generation MTP-36 pedestals and discontinued MTP-42 pedestals. These instructions address connection of the switch to a PCR, PCRX or SSD model installed in any of the pedestal models listed and assumed to be in service.

Each Isolation Switch must be ordered with a lead kit unique to the decoupler model to which it will be connected. Lead kit model MTL-2-32-SWP is required for connection to a PCR or PCRX rated 10kA and below, model MTL-2/0-32-SWP is for use with PCR or PCRX models rated 15kA, and model MTL-2-32-SWS for connection to an SSD.

WORKER SAFETY

For worker safety during installation, it is recommended that the user obtain certain equipment; namely a pair of electrically insulated gloves, a shorting cable of approximate 3 ft length with insulated clamps on each end, and a multi-meter to measure ac voltage. (Of these items, Dairyland offers a suitable 3 ft long 1/0AWG shorting cable with insulated clamps, Model# BCL-1/0 for all decoupler ratings.) The following installation procedure assumes that these items are available. It is suggested that a grounding jumper be used as a safety precaution in the event the pipeline lead rises to an unsafe potential when it is removed from the decoupler, which is a necessary step during the installation process or if an electrical disturbance occurred while the Isolation Switch is being installed. If the voltage one is working with is not at a safe touch potential (i.e., >15Vac to ground), then insulating gloves should be used.



Dairyland model SWX-100-PED

⚠ WARNING

When isolation switches are used in AC voltage mitigation applications, if multiple or all decouplers are disconnected, the pipeline voltage may rise to an unsafe level (i.e., above the 15Vac that NACE standards consider safe). Therefore, safety precautions should be taken by the user when decouplers used for AC voltage mitigation are isolated from the pipeline, particularly at any pipeline contact point. Dairyland provides suggested procedures for installing and operating the Isolation Switch, but the user must be responsible for and approve the procedures to be used by its workers when initially installing the Isolation Switch in a field retrofit installation because Dairyland cannot be familiar with each user's safety guidelines.

⚠ WARNING

Measure the AC voltage at the decoupler, as outlined in step 1, before contacting any terminals or connections, and follow the described safety procedures.

⚠ WARNING

Isolation Switches are not to be installed in a defined hazardous location, but rather in an "ordinary" location.

NOTICE

When a decoupler is being used to provide AC grounding for electrical equipment, via installation in a code-covered grounding conductor or bond, an Isolation Switch should not be installed, because per electric codes, such equipment must always be solidly AC grounded under all conditions.



REQUIRED TOOLS

Required user-furnished installation tools include:

- a ratchet wrench with $\frac{1}{2}$ " and $\frac{3}{4}$ " sockets,
- a $\frac{1}{2}$ " and $\frac{3}{4}$ " box end wrench,
- a battery operated drill with a $\frac{9}{16}$ " drill bit,
- a center-punch,
- a suitable grounding jumper and electrically insulated gloves as mentioned above,
- electrical insulating tape,
- a multimeter to measure AC voltage,
- a padlock that fits a $\frac{7}{16}$ " hole in the isolation switch latch.

INSTALLATION PROCEDURE FOR ANY PEDESTAL OR DECOUPLER MODEL

Note: The photos used in the installation steps will show the switch being connected to a SSD in a now discontinued MTP-42 pedestal. All steps remain the same regardless of mounting pedestal model number.

- Two $\frac{9}{16}$ " holes are required in the pedestal cover to mount the isolation switch. It is very important to install this switch to the one correct face of the cover for each pedestal model.
- The correct cover face on the standard Dairyland pedestal (MTP-36) is the face on which the head of the two pedestal cover latch pins are visible near the bottom end of the cover. Two $\frac{9}{16}$ " holes in the cover are required for mounting the isolation switch. Use the "Hole Location Template and Drilling Instructions" furnished with each isolation switch to drill these holes and then remove the pedestal cover and lay it flat so the two holes are on the right or left side. Hole location is very important. See Appendix for template information.



Dairyland MTP-36

- Open the isolation switch cover. If ON appears above the right corner of the pull-out switch, then pull out by the handle, rotate 180° and plug back in so OFF appears below the left corner of the pull-out switch and close the cover. If OFF appeared when the cover was first opened, then leave as-is and close the cover.

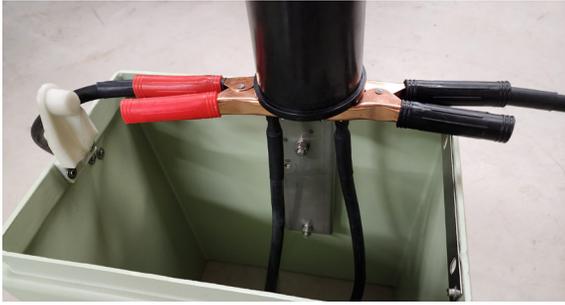


Left: Switch On | Right: Switch Off

- Remove the two brass nuts and stainless washer from each stud projecting from the bottom of the enclosure, but leave the two rubber gaskets on each stud.

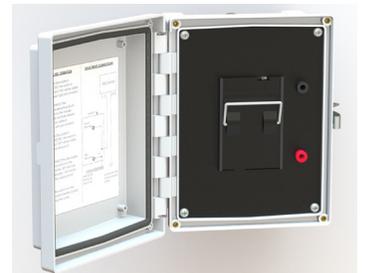
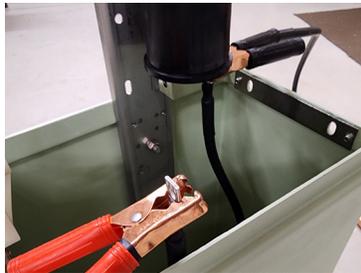


- Insert the two $\frac{1}{2}$ " studs of the switch through the two holes drilled in the pedestal cover so the switch is upright (i.e., so the nameplate is readable when the cover is later reinstalled on the base). It may be necessary to slightly force the two studs closer together or further apart to insert through the two holes if they were not drilled precisely per the template hole location marks.
- On the inside of the pedestal cover, install on each stud one stainless steel washer and one hex brass nut threaded all the way on the stud hand tight. Using a $\frac{3}{4}$ " box wrench or ratchet wrench, tighten each brass nut until the flange of the enclosure is snug against the outside wall of the pedestal cover to assure a good seal, but do not over tighten. Stop tightening when the force required to turn the nut rather abruptly increases.



11. If the AC voltage measured in step 9 was safe, proceed without using insulated gloves but take care not to dislodge the shorting jumper. Remove the negative decoupler lead using a set of 1/2" wrenches if disconnecting from an SSD or 3/4" wrenches if disconnecting from a PCR or PCRX. Leave the grounding jumper connected to this lead as illustrated during this process.

13. Since the isolation switch was previously placed in the OFF position (i.e., switch open) in step 3, the lead to be reconnected to the decoupler negative terminal in this step is not connected to the pipeline so it can be installed by hand. Take the lead that was connected to other isolation switch stud near the bottom end of the pedestal cover, bend it over the top edge of the pedestal base and form it so the terminal on this lead comes straight up to the decoupler terminal as illustrated in the left photo below. Apply Tef-Gel to the terminal pad that will be in contact with the negative decoupler terminal. Use the hardware that was removed from this decoupler terminal in an earlier step and bolt these connections together tightening securely. After this connection is completed, open the cover on the isolation switch enclosure, pull out the switch mechanism, rotate 180° and reinsert fully. The switch is now ON with the decoupler connected to the pipeline.



12. Using the nut, bolt, and washers provided with the lead kit, splice the lead just removed from the decoupler negative terminal to the terminal of the lead installed to innermost isolation switch stud inside of the pedestal cover by bolting the terminal ends of these leads together. Apply Tef-Gel to all flat mating surfaces of the terminals and to hardware threads. Place a flat washer under the bolt head and a flat washer, lock washer, and nut on the other end of the bolt after it is inserted through both terminal holes. Tighten the nut on the bolt firmly. If there is more than one lead from the pipeline, up to three pipeline leads can be spliced together as illustrated in the photo below on the right. Alternately, the MTR-1 Terminal Extension Kit may be used to connect up to 5 leads (see the Installation Instructions for the MTR kit at www.dairyland.com Continue to leave the grounding jumper connected.

14. Remove the grounding jumper because the pipeline is now grounded through the decoupler and switch. As a precaution, insulate the bolted splice joint done in step 12 with a material of the users choice to prevent this pipeline lead from being touched whenever the pedestal cover is removed.



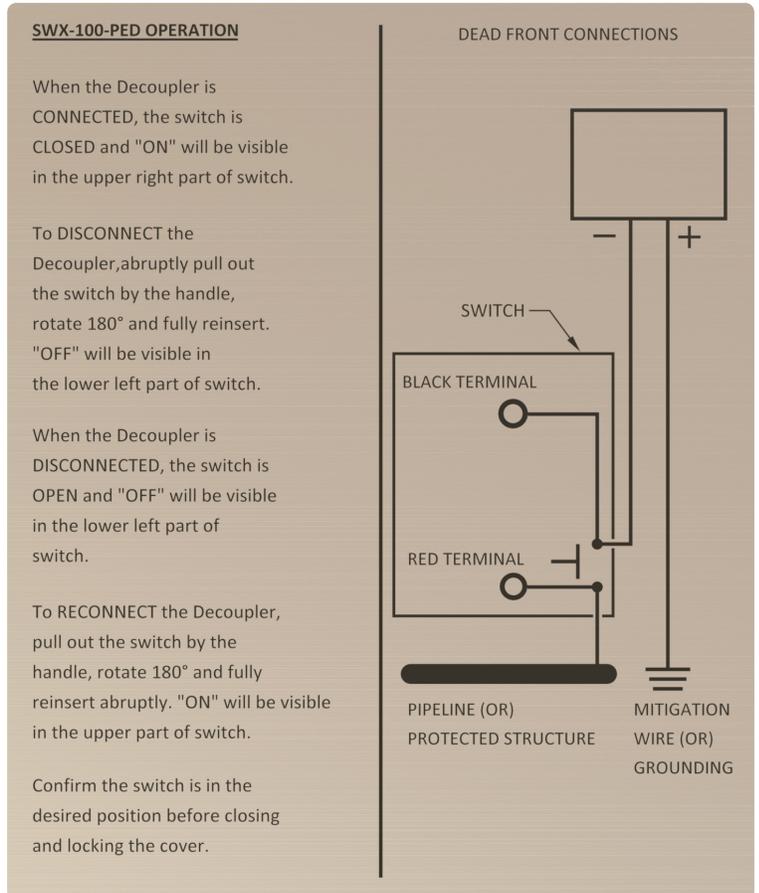


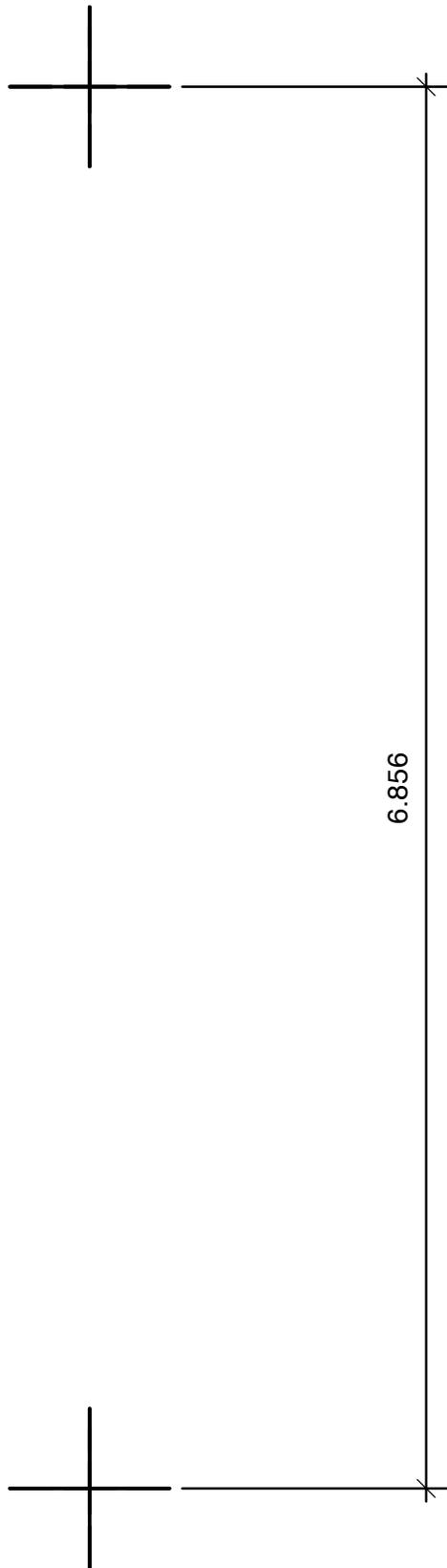
15. The pedestal cover can now be reinstalled over the pedestal base as illustrated and the pedestal cover locked.

16. If the decoupler is to be left connected to the pipeline, no further action is required because the pull out switch is already ON (i.e., decoupler connected). If the decoupler is to be left disconnected, then return the switch to its OFF position. Confirm that the isolation switch is left in the desired position, then close the isolation switch enclosure cover and lock. This completes the installation instructions.

The isolation switch includes two dead front terminals allowing for convenient access to pipeline or protected structure and mitigation wire or grounding system. The black terminal provides a connection point to the grounding system or mitigation wire through the decoupler for AC signals only. The red terminal provides a connection point to the pipeline or protected structure for both DC or AC signals.

The isolation switch operating instructions are found inside the enclosure cover and shown below. Read and follow these instructions. Certain steps recommend abruptly pulling out and reinserting the switch mechanism and the reason for this is to minimize arcing time on the switch contacts.



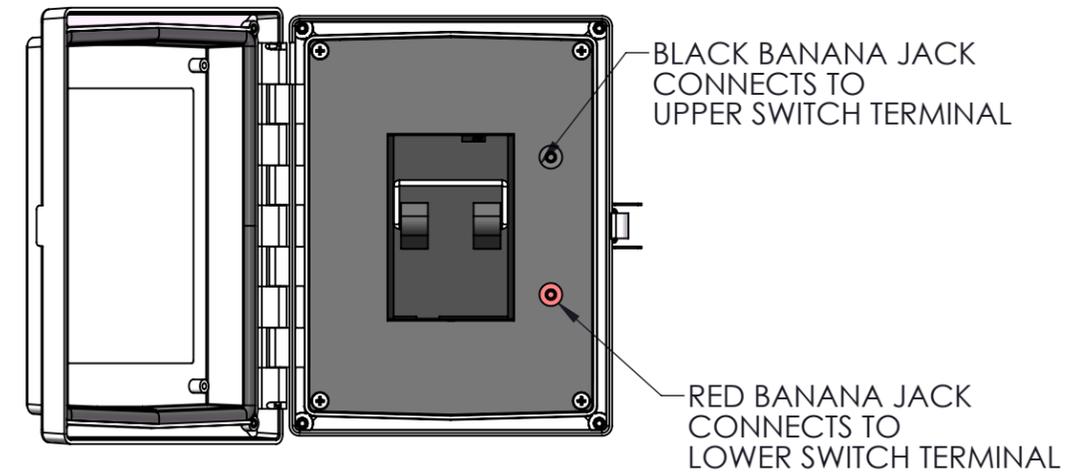
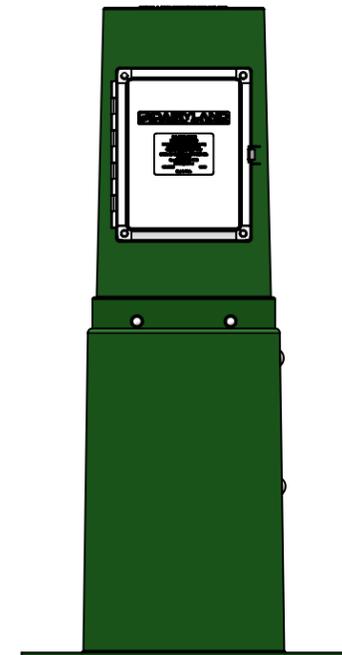
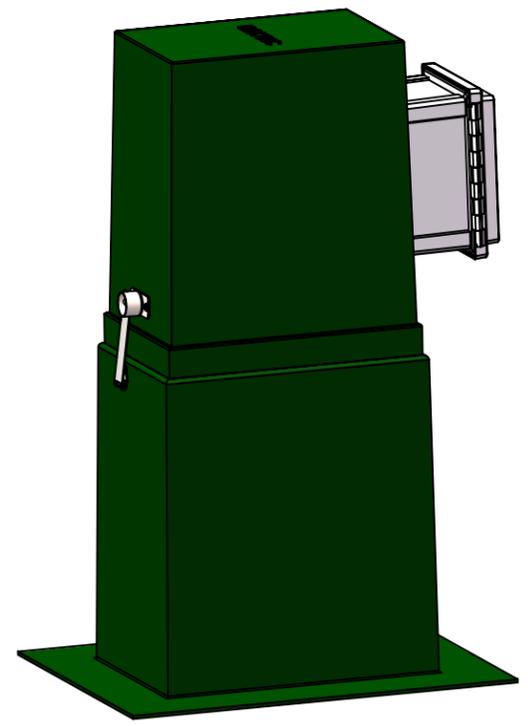
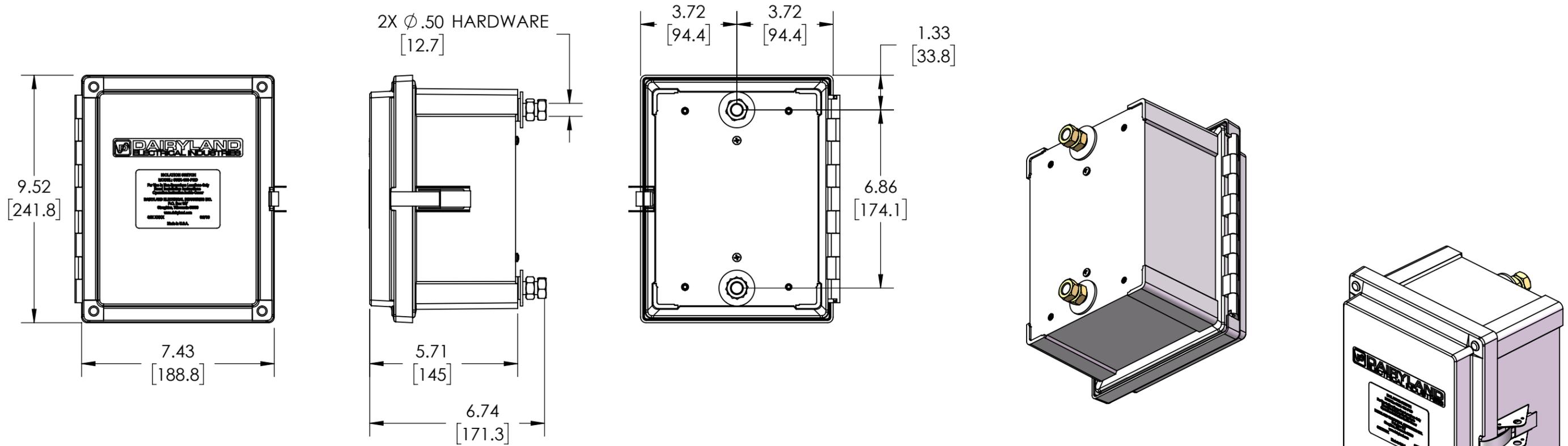


Hole Location Template and Drilling Instructions

This Isolation Switch can be mounted to following Dairyland pedestals
Model MTP-36
Model MTP-42

1. See photo of each pedestal in the instructions to determine the cover face on which the isolation switch is to be mounted. Do not mount on any other cover face.
2. Align the bottom edge of this template with the bottom edge of the cover and center it horizontally between the right and left cover edges.
3. Carefully center punch mark the two holes. The 6.856" dimension is critical.
4. Drill through the pedestal cover wall with a 9/16" (0.531") drill bit but no more than necessary to prevent drilling into the decoupler product inside of the pedestal. Reconfirm spacing with drill template.
5. Mount the switch per instructions provided.

3.0" above bottom edge of pedestal cover.



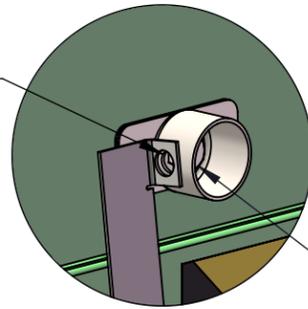
NOTE: PEDESTAL REQUIRED FOR INSTALLATION.
 ORDER MTP-36, BCL-1/0 AND CONDUCTOR KIT
 MTL-2-32-SWS FOR SSD, MTL-2-32-SWP FOR UP TO
 10KA PCR/PCRX, OR MTL-2/0-32-SWP FOR 15KA
 PCR/PCRX.

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	NA	SVS	2017-11-16			
FINISH: .XXX = ±.005" .XX = ±.01" .X = ±.03" ANGLES = ±1°	FINISH:	DWG APPROVAL:	DATE APPROVAL:	SWX-100-PED OUTLINE DRAWING		
	NA	RJH	11/11/2021			
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REQUIRED TOOLS:

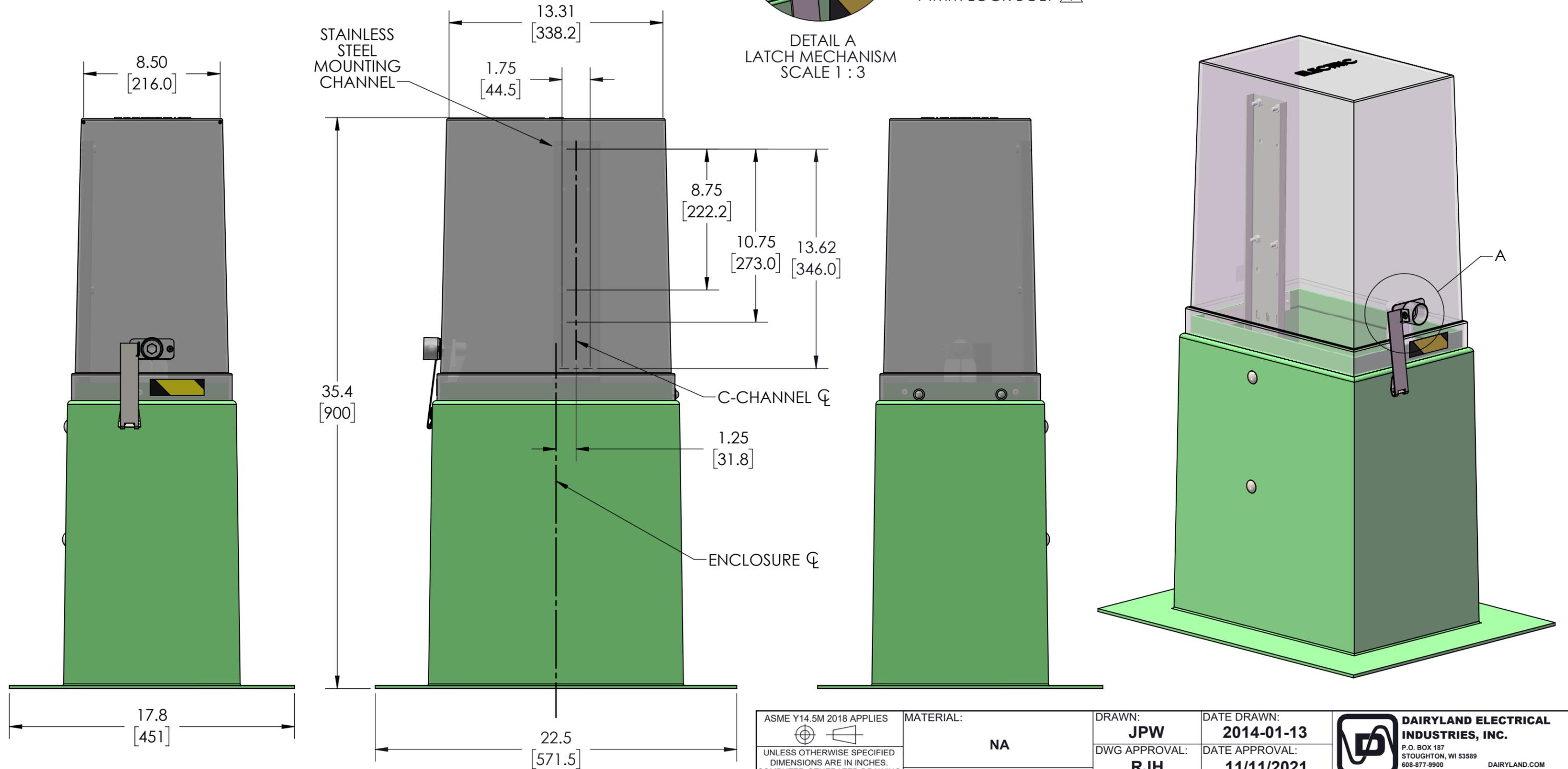
① 14mm SOCKET FOR LOCK BOLT.

Ø7/16" HOLE FOR PADLOCK



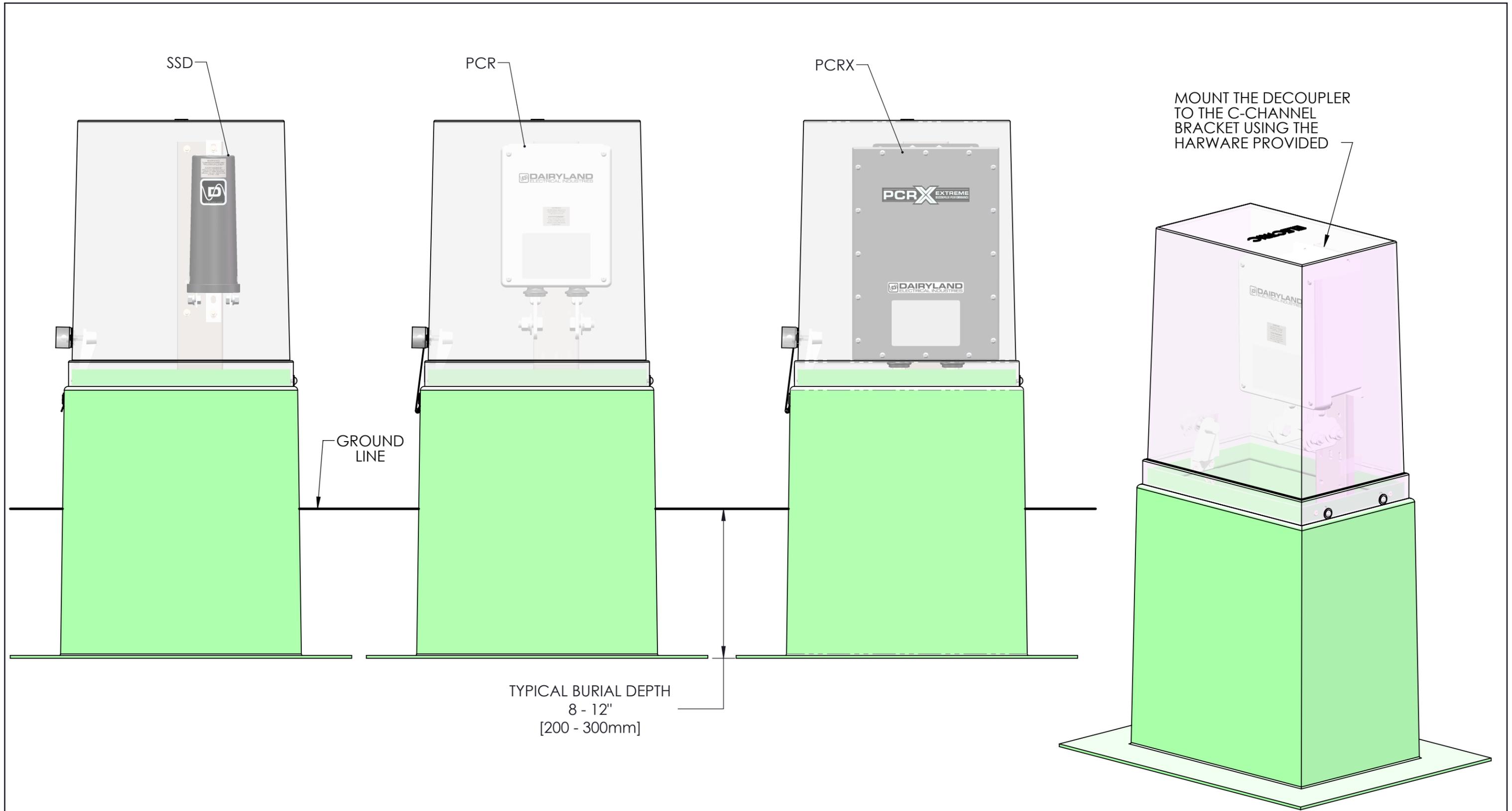
14mm LOCK BOLT ①

DETAIL A
LATCH MECHANISM
SCALE 1 : 3



DEI ITEM #: 1818

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	FINISH: NA	DWG APPROVAL: RJH	DATE APPROVAL: 11/11/2021	
.XXX = ±.005" .XX = ±.01" .X = ±.03" ANGLES = ±1°	TITLE: 36" PEDESTAL (CATALOG #: MTP-36)		SHEET: OF 1 2	DWG SIZE: SCALE: REV: PART #: B 1:6 D 100035
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	NA	DWG APPROVAL: RJH	DATE APPROVAL: 11/11/2021				
FINISH: NA	TITLE: 36" PEDESTAL (CATALOG #: MTP-36)						
.XXX = ±.005" .XX = ±.01" .X = ±.03" ANGLES = ±1°	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF DAIRYLAND ELECTRICAL INDUSTRIES, INC. ANY REPRODUCTION IN PART OR WHOLE, WITHOUT THE WRITTEN PERMISSION OF DAIRYLAND ELECTRICAL INDUSTRIES, INC. IS PROHIBITED.		SHEET: 2 OF 2	DWG SIZE: B	SCALE: 1:6	REV: D	PART #: 100035