



STYLE 3406 ELECTRIC RISER

The following is intended to provide the basic instructions for installation, operation and maintenance of the Electric Riser, and to assist in attaining the best possible performance from the unit. Read and understand these operating instructions before use.

TOOLS REQUIRED

- Utility Knife
- Medium Phillips screwdriver
- Small Phillips screwdriver
- Deutsch crimp tool (P/N HDT-48-00)
- Electrician's pliers (multipurpose, stripping and crimping)
- Medium flat screwdriver
- Small flat screwdriver
- 3/4 inch hex head wrench

PRODUCT RATINGS

Maximum Motor Current Draw:

12 volt versions	22 amps
24 volt versions	11 amps

Normal Operating Current: (Depending on operating conditions—pressure, flow, etc.)

12 volt versions	17 amps
24 volt versions	8.5 amps

Minimum Voltage: **(Truck engine must be operating for proper voltage requirement.)**

All 12 volt motors: 11.5 volts while operating

All 24 volt motors: 23 volts while operating

Maximum Flow: 1250 gpm (4800 lpm)

Maximum Pressure: 200 psi (14 bar)

PRODUCT WARNINGS

- ⚠ **WARNING:** For fire fighting use only by trained fire fighters.
- ⚠ **WARNING:** Charge the unit slowly. Rapid charging may cause a pressure surge that has the potential to cause an injury, or damage riser and/or the monitor.
- ⚠ **WARNING:** DO NOT stow or deploy the Riser/Monitor while flowing. Pressing the stow or deploy buttons causes the nozzle to move automatically and the water stream may cause damage to equipment or injury to personnel.
- ⚠ **WARNING:** Aim the unit in a safe direction before pumping water through it. (e.g. away from power lines)
- ⚠ **WARNING:** Although the logic circuit board includes a water-resistant coating, it is important to keep water out of the control box and logic box. Prolonged exposure to water will cause damage. When the cover of the control box or logic box is removed, check that the gasket under the cover is intact and free of dirt and debris.
- ⚠ **WARNING:** Do not use the electric controls when the override cranks are being used or are in position for use.
- ⚠ **WARNING:** Make the connection of the vehicle battery the final step.
- ⚠ **WARNING:** Replace the identification tags if they should become worn or damaged.
- ⚠ **WARNING:** DO NOT exceed the maximum pressure or flow ratings of the riser. Exceeding these ratings may lead to an injury or may cause damage to the monitor.
- ⚠ **WARNING:** DO NOT install shutoffs on the outlet of the electric monitor. Shutoffs increase the potential for pressure surges due to water hammer, which have the potential to cause an injury or damage the riser and/or monitor.
- ⚠ **WARNING:** Riser may extend if water pressure is applied prior to deploying the assembly.

⚠ WARNING: If not equipped with an automatic drain valve, drain the Riser after use to prevent “freeze damage”.

MECHANICAL ATTACHMENT OF ELECTRIC RISER TO MONITOR

⚠ WARNING: INSUFFICIENT STRUCTURAL SUPPORT CAN LEAD TO FAILURE, WHICH HAS POTENTIAL TO CAUSE AN INJURY. THEREFORE, ADDITIONAL STRUCTURAL SUPPORT AT THE INLET FLANGE OR AT THE INLET ELBOW MAY BE REQUIRED.

The monitor is to be mounted to the Monitor Support Flange with four 5/8” bolts and nuts of grade five minimum and suitable washers with a minimum of six threads engagement. The notch that is cut into the inlet flange is the front of the monitor. The bolts must be tightened in a criss-cross pattern progressively increasing tightening torque to a maximum of 100 lb.ft.dry. (See Figure 3.)

EXTENSION STOPS

The extension stops set the boundaries for the height that the riser is allowed to travel. These stops should not be removed or adjusted for any reason.

MECHANICAL ATTACHMENT OF ELECTRIC RISER TO APPARATUS

The Electric riser is attached to the apparatus using four 1/2-13 bolts of grade five or higher. The length of the bolts should be 2-1/2” plus the thickness of the mounting surface. (See Figure 3.)

MECHANICAL ATTACHMENT OF MINI UNIVERSAL CONTROLLER TO ELECTRIC RISER

The mini universal controller mounts to the electric riser with the two 1/4-20 x 1" cap screws and washers provided. (See Figure 3.)

ELECTRICAL INSTALLATION INSTRUCTIONS

DeckMaster with Prox Switches (No Position Feedback & Universal 1 Logic Box)

A. Connect Mini Universal Controller to Universal 1 Logic Box

- (1) Determine the length of cable (18 AWG, 6 conductor) needed between the Mini Universal Controller and the DeckMaster logic box. Add an additional 6” to the measured length. Install the supplied cord grip into the DeckMaster logic box. Remove the cord grip nut and slide onto the cable. Remove the cord grip bushing and compression grommet and slide them onto the cable.
- (2) Strip 6” of the jacket off of the DeckMaster logic box side of the cable and thread the cable through the cord grip body on the logic box. Route the cable to the TB3 terminal strip area. Slide the compression grommet and bushing into the cord grip body. Slide the cord grip nut up to the cord grip body and tighten until the cord is secured.
- (3) Refer to Figure 2 for the electrical connection between the DeckMaster logic box and the Mini Universal Controller connectors. The wiring diagram on the DeckMaster logic box lid can also be used as a reference.

B. Set the Option (DIP) Switches on the Universal 1 circuit board inside the 3440 DeckMaster logic box

- (1) The switches are factory set at:

	1	2	3	4	5	6	7	8
UP (ON)						•	•	•
DOWN (OFF)	•	•	•	•	•			

- (2) Set switch #4 to the UP position. This will allow the Riser and the DeckMaster to be automatically coordinated during deploying and stowing. **WARNING: If switch #4 is down and the DEPLOY or STOW switch is pressed, damage may occur from the monitor hitting an obstacle due to the fact that the Riser will not extend or retract.**

	1	2	3	4	5	6	7	8
UP (ON)				•		•	•	•
DOWN (OFF)	•	•	•		•			

DeckMaster with Position Feedback, All StreamMasters (Universal 1 Logic Box)

Note: The software for the DeckMaster with Position Feedback and all of the StreamMasters does not support the Electric Riser. The Electric Riser must be used in stand-alone mode with its own dedicated “Extend/Retract” toggle switch.

A. Connect an EXTEND/RETRACT toggle switch to the 6033 Mini Universal Controller

- (1) Use an SPDT momentary style toggle switch where the center position is off.
- (2) Connect the switch COMMON terminal to the black connector (right hand side of 6033), position number 1.
- (3) Connect the switch RETRACT terminal to the black connector, position number 2.
- (4) Connect the switch EXTEND terminal to the black connector, position number 3.

B. Connect power to the DTP04-2P receptacle connector on the 6033 Mini Universal Controller

- 12 AWG Red Wire is +System Voltage (12 or 24 Volts DC)
- 12 AWG Black Wire is System Ground
- Use appropriate fuse or circuit breaker to protect wiring
- The voltage rating on the motor must match the system voltage.

C. Optionally connect the Retracted/Extended Indicator Relays on the 6033 Mini Universal Controller

- Fully Retracted Relay: This relay turns on when the Riser is FULLY RETRACTED. Also, the K1-GREEN LED (Middle front of 6033) will turn on. The dry relay contacts are located at positions 9 and 10 of the gray connector (left side of 6033), and are rated at 1 amp maximum @ 30VDC.
- Fully Extended Relay: This relay turns on when the Riser is FULLY EXTENDED. Also, the K2-RED LED (Middle front of 6033) will turn on. The dry relay contacts are located at positions 11 and 12 of the gray connector (left side of 6033), and are rated at 1 amp maximum @ 30VDC.

Universal II Logic Box

A. Connect to CAN network using AB cable #721594.

B. Follow the set VP procedure for the monitor that you are using.

C. Enable the Electric Riser in the set-up menu.

- Error Code 2-1 indicates that the riser function is enabled, but the riser is not available on the network.

OPERATING INSTRUCTIONS

WARNING: Be sure to completely deploy the Riser/Monitor before flowing water.

DeckMaster with Prox Switches (No Position Feedback) – “Automatic Mode”

- **Deploy:** Lift the safety cover on the DEPLOY/STOW switch, push the toggle switch up and then release. The Riser will extend to lift the DeckMaster up 12” and then the DeckMaster will deploy.
- **Stow:** Lift the safety cover on the DEPLOY/STOW switch, push the toggle switch down and then release. The DeckMaster will stow and then the Riser will retract.
- **Emergency Stop during Deploy or Stow:** If it is necessary to immediately stop the Riser/DeckMaster during the deploy or stow sequence, activate any switch on the control panel and the unit will stop moving (E-Stop). To complete the deploy or stow sequence after an emergency stop, press the DEPLOY or STOW switch again.

DeckMaster with Position Feedback, All StreamMasters – “Stand-Alone Mode”

- **Deploy:** Press and hold the EXTEND switch until the Riser is fully extended, and then release the EXTEND switch. Lift the safety cover on the DEPLOY/STOW switch, push the toggle switch up and then release. The monitor will deploy.
- **Stow:** Lift the safety cover on the DEPLOY/STOW switch, push the toggle switch down and then release. The monitor will stow. Press and hold the RETRACT switch until the Riser is fully retracted, and then release the RETRACT switch.
- **Emergency Stop during Deploy or Stow:** If it is necessary to immediately stop the Monitor during the deploy or stow sequence, activate any switch on the control panel (except EXTEND/RETRACT) and the unit will stop moving (E-Stop). To complete the deploy or stow sequence after an emergency stop, press the DEPLOY or STOW switch again.

Manual Override Control: The manual override is to be used, only when the power to the Riser is off. To raise the Riser, apply 50 PSI of water pressure and it will go up. To lower, turn off water, pull the pin at the top of the actuator and lower monitor and riser.

Note: You will have the full weight of the riser and monitor. It would be best to use more than one person. It will also help to lift the monitor and riser as you pull the pin.

Troubleshooting Tips for the 6033 Mini Universal Controller

- (1) Open fuse detection (monitored continuously).
- (2) Motor disconnected, or open motor circuit detection (checked once every time motor is turned on). When either of these conditions are found, the Mini Universal will:
 - Stop trying to run the motor
 - Turn off input command indicators LED 1 or LED 6
 - Turn OFF Relay K1 (Green LED = Retracted)
 - Turn OFF Relay K2 (Red LED = Extended)
 - Turn on FAULT indicator LED 3
 - **Remain in this condition until fault is cleared / fixed, AND power is turned off, then back on**
- (3) LED 1 and LED 6 are input signal command indicators. They should come on when the 6033 Mini Universal Controller is being told to Extend, or to Retract.
- (4) The “POWER OUT” LED at the top right side of the 6033 comes on **Green** when power is being sent out to the Electric Riser motor to **RETRACT** the 3406 Riser.
- (5) The “POWER OUT” LED at the top right side of the 6033 comes on **Red** when power is being sent out to the Electric Riser motor to **EXTEND** the 3406 Riser.

MAINTENANCE INSTRUCTIONS

The electric riser should be inspected prior to and after each use to ensure it is in good operating condition. Periodically, an unanticipated incident occurs where the unit is used in a manner that is inconsistent with standard operating practices. A partial list of these uses includes:

- Operating above the maximum rated pressure or flow.
- Prolonged exposure to temperatures above 130°F, or below -25°F.
- Operating in a corrosive environment.
- Having the monitor nozzle hit a fixed object during operation or transportation.
- Any misuse that might be unique to your specific environment.

Also, there are many “tell tale” signs that indicate repair is in order, such as:

- Controls that are either inoperable or difficult to operate.
- Excessive wear
- Poor discharge performance
- Water leaks.

If any of the above situations are encountered, the Riser/Monitor monitor should be taken out of service, repaired, and tested by a qualified technician before placing back in service. Grease fittings are provided above the extension stops. To lubricate the riser, place it in the extended position and wipe off any old grease residue from the tubes. Using a manual grease gun, apply two shots of grease to each fitting.

Figure 1

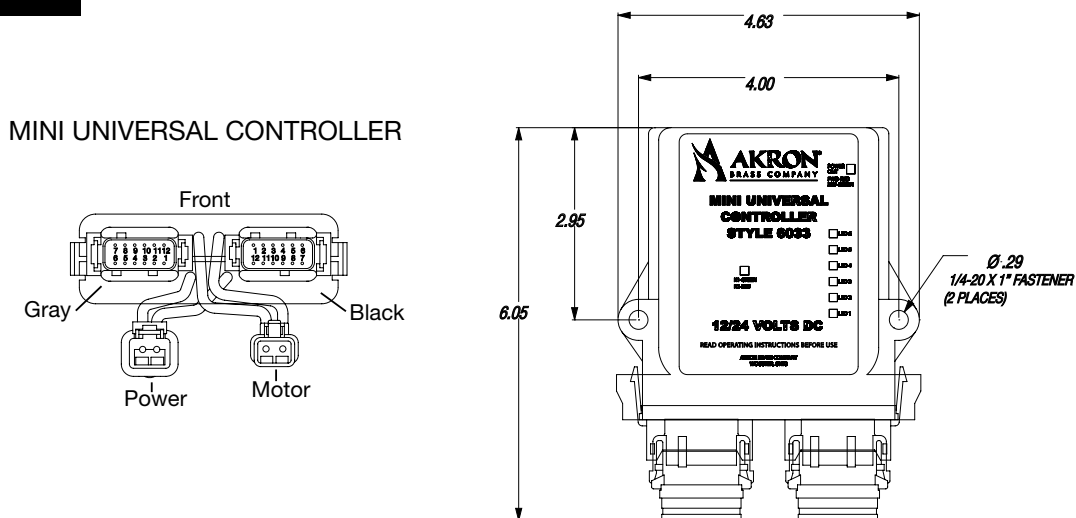
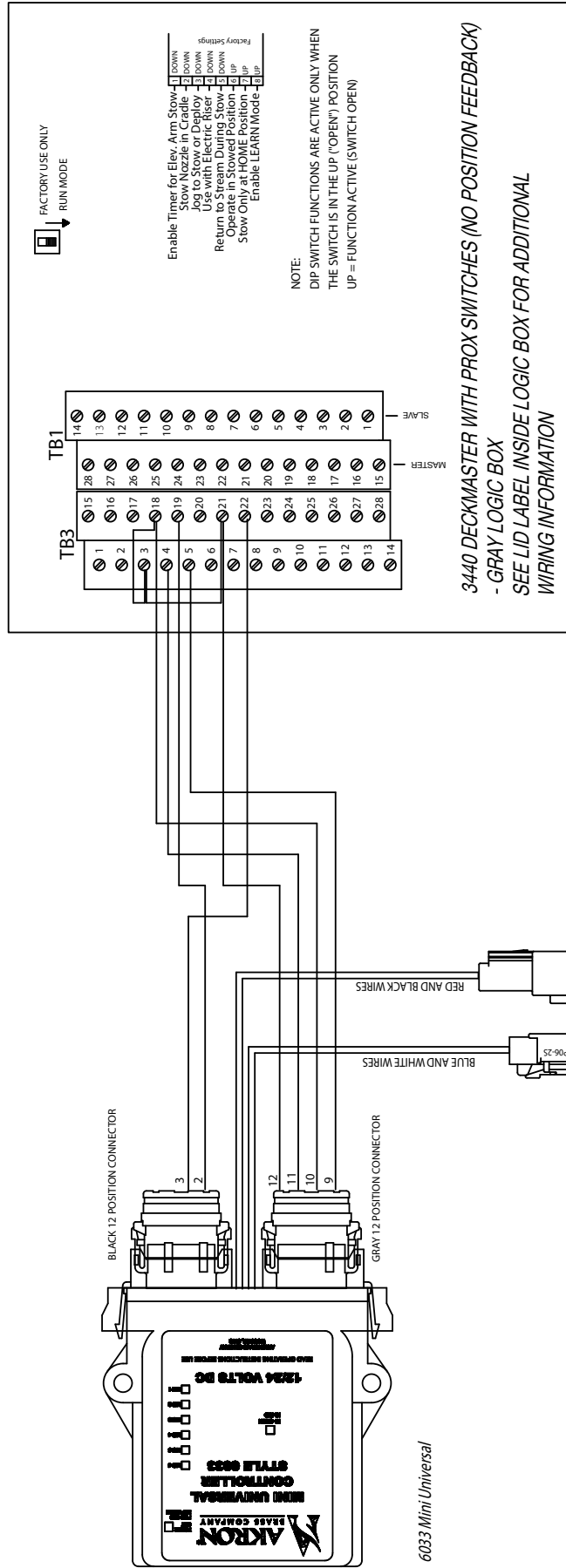
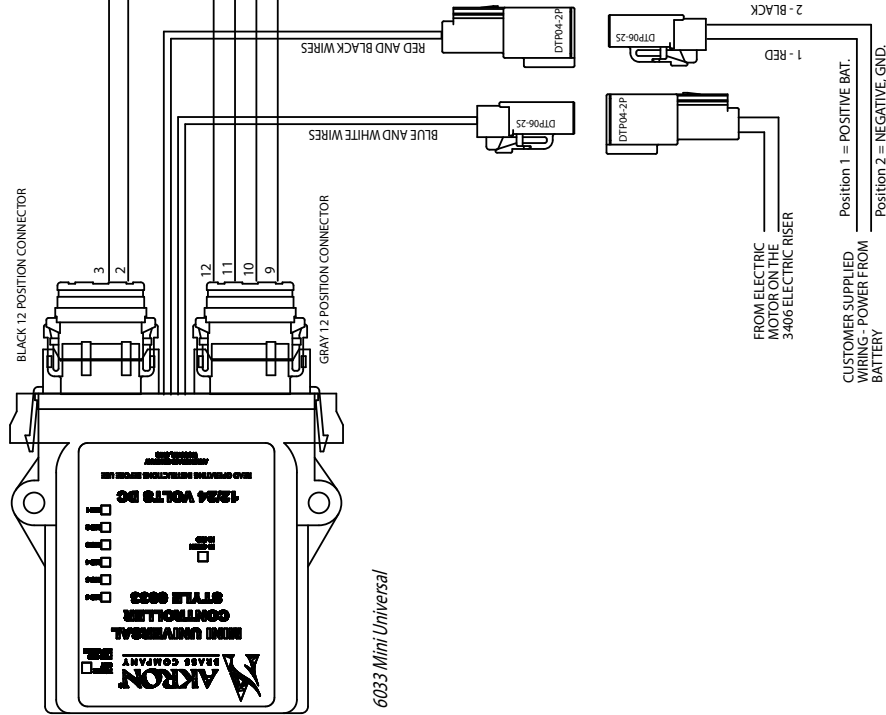


Figure 2



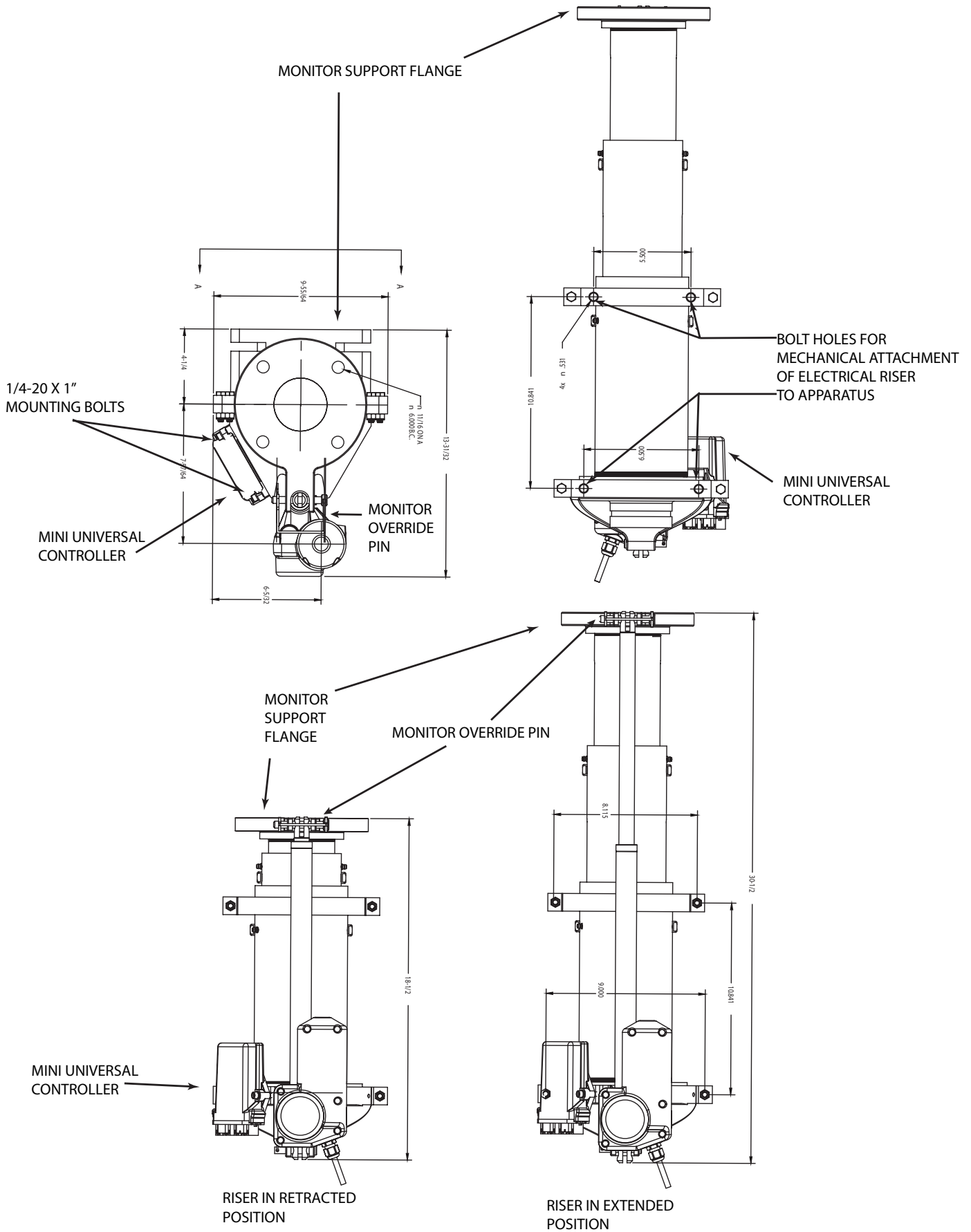
Notes:

- 1 - DIP Switch 4 must be in the UP position for Electric Riser to operate.
- 2 - Software version of the 3440 board must be between Version 8 & Version 19.
 Older versions (e.g. vers7) will not "tell" Riser to Extend or Retract.
- 3 - After "LEARNING" new Deploy, or Stow positions, place DIP Switch 8 in the DOWN position. This will lock in the new position.
- 4 - Verify that there is a jumper wire from terminal TB3-3 to TB3-18 and another one from terminal TB3-3 to TB3-21. The Riser will not operate if these two jumpers are missing.



6033 Mini Universal

Figure 3



This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



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