

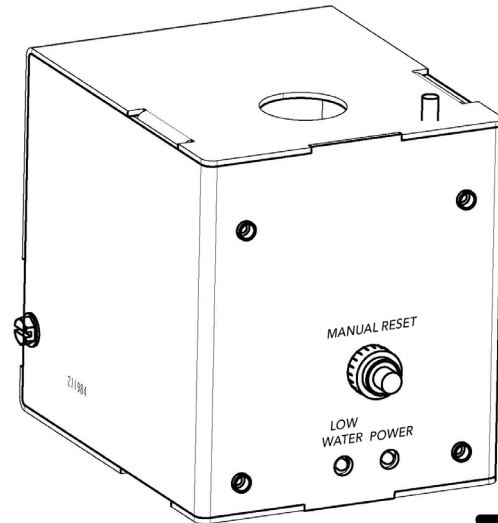
211989

e-11M Control

Control for use on 24 or 120 VAC systems requiring manual reset on Series 64 and 67 Low Water Cut-Offs

Applications:
Secondary LWCO manual-reset control for residential and commercial boilers of any steaming capacity.

Primary LWCO for hot water boilers.



⚠ WARNING



- Before using this product read and understand instructions.
 - Save these instructions for future reference.
 - All work must be performed by qualified personnel trained in the proper application, installation, and maintenance of plumbing, steam, and electrical equipment and/or systems in accordance with all applicable codes and ordinances.
 - Boiler manufacturer's schematics should always be followed. In the event that the boiler manufacturer's schematic does not exist, or is not available from the boiler manufacturer, refer to the schematics provided in this document.
 - To prevent serious burns, allow the control and surrounding equipment to cool to 80°F (27°C) and allow pressure to release to 0 psi (0 bar) before servicing.
 - To prevent electrical fire or equipment damage, electrical wiring insulation must have a rating of 167°F (75°C) if the liquid's temperature exceeds 180°F (82°C).
 - This low water cut-off must be installed in series with all other limit and operating controls installed on the boiler. After installation, check for proper operation of all of the limit and operating controls, before leaving the site.
 - When using mixed voltages, do not jumper from terminal H to terminal C.
 - To prevent electrocution, when the electrical power is connected to the control, do not touch the terminals, or electrical wires.
 - To prevent electrical shock, turn off the electrical power before making electrical connections.
 - California Proposition 65 warning! This product contains chemicals known to the state of California to cause cancer and birth defects or other reproductive harm.
 - Previous controls should never be installed on a new system. Always install new controls on a new boiler or system.
- Failure to follow this warning could cause property damage, personal injury or death.

CAUTION:

- A more frequent replacement interval may be necessary based on the condition of the unit at time of inspection. McDonnell & Miller's warranty is one (1) year from date of installation or two (2) years from the date of manufacture.

SPECIFICATIONS

The e-11M control when connected to a series 64 or 67 Low Water Cut-Off (LWCO) provides protection against low water conditions for residential and commercial applications.

The e-11M control is fully CSD-1 compliant.

Control Unit Ratings

Temperature:

Storage: -40°F to 135°F (-40°C to 57°C)

Ambient: 32°F to 120°F (0°C to 49°C)

Humidity: 85% (non-condensing)

Electrical Enclosure Rating: NEMA 1 General Purpose

Electrical Specifications:

Model	Control Voltage	Switch Contact Rating
e-11M-24V	24 VAC	50VA@24VAC
e-11M-120V	120 VAC	125VA@120VAC

Hz: 50/60

Control Power Consumption: 3VA (max.)

Electrical Enclosure Rating: NEMA 1 General Purpose.

CSD-1 Code Compliance:

On manual reset units, if the e-11M and LWCO control is in a low water condition and there is a sudden power interruption, the control will remain in low water condition (Burner Off) even if the power is restored. The manual reset button must be depressed to re-establish function after the water level has returned to a normal level in the boiler.

CONTENTS

The e-11M Control kit contains the following:

- e-11M Control unit - Quantity 1.
- Number 11 switch - Quantity 1.
- Wiring Harness - Quantity 1.
- Instruction Manual - Quantity 1.
- Hardware (bag) - Quantity 1.

NOTICE

This instruction manual only refers to the installation of the e-11M control to a 64 or 67 LWCO, which has been installed on the boiler. For the correct installation of the LWCO, please refer to the instruction manual that is included with the LWCO.



CAUTION

Do not use a manual reset LWCO with an electric automatic water feeder. Failure to follow this caution can cause flooding and property damage.

INSTALLATION

1. INSTALLING THE e-11M CONTROL UNIT



WARNING

To prevent electrical shock, turn off the electrical power before making electrical connections.

This LWCO must be installed in series with all other limit and operating controls installed on the boiler. After installation, check for proper operation of all the limit and operating controls, before leaving the site.

All work must be performed by qualified personnel trained in the proper application, installation, and/or systems in accordance with all applicable codes and ordinances.

Failure to follow this warning could cause electrical shock, an explosion and/or fire, which could result in property damage, personal injury or death.

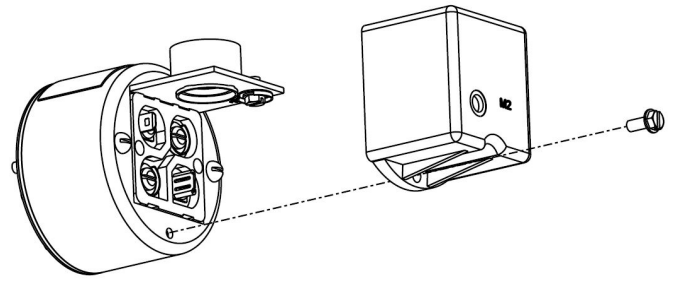


Figure 1

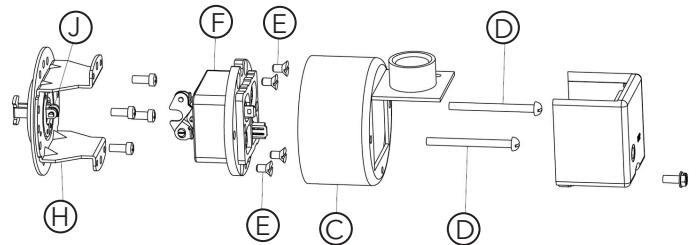


Figure 2

1.1. NEW INSTALLATION

1. Using a flat blade screwdriver remove the one screw that secures the LWCO terminal cover, see **Figure 1**.
2. Using a flat blade screwdriver loosen the two screws (D); see **Figure 2**, but DO NOT REMOVE.
3. Using a flat blade screwdriver loosen the two screws on the e-11M control and separate the cover of the control from the bracket, see **Figure 3**.
4. Align the e-11M bracket with LWCO, see **Figure 4**, and secure it by tightening the two screws.

1.2. INSTALLATION AS A REPLACEMENT FOR 11M SWITCH

1. Turn off the power to the boiler. Allow boiler to cool to room temperature.
2. See **Figure 2**, using a flat blade screwdriver; remove the terminal cover (B). Tag and remove wiring from terminals. Remove screws (D) and housing (C). Remove four switch mounting screws (E) and 11M switch (F). Install the Number 11 switch (included with the kit), 'TOP' notch up and being certain to align 'U-shaped' notch of the switch rocker on the float mechanism roller (J). Secure the switch on bracket (H) with screws (E).
3. Using a flat blade screwdriver, reassemble housing (C) with screws (D), see **Figure 2**, but do not tighten, (leaving approx. 1/8" gap).
4. Using a flat blade screwdriver loosen the two screws on the e-11M control and separate the cover of the control from the bracket, see **Figure 3**.
5. Align the e-11M bracket with LWCO, see **Figure 4**, and secure it by tightening the two screws.

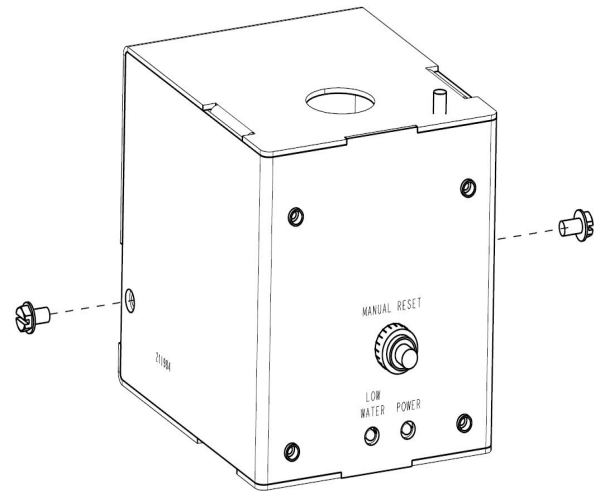


Figure 3

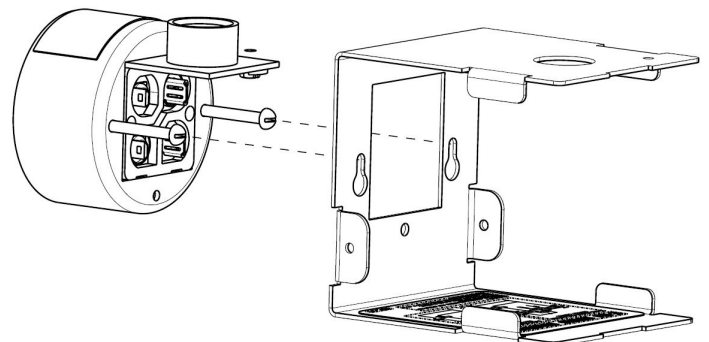


Figure 4

INSTALLATION

2. ELECTRICAL WIRING OF NUMBER 11 SWITCH

NOTICE

Boiler manufacturer schematics should always be followed. In the event that the boiler manufacturer's schematic does not exist, or is not available from the boiler manufacturer, refer to the schematics provided in this document.



WARNING

To prevent electrical fire or equipment damage, electrical wiring must have a rating of 167°F (75°C) if the liquid's temperature exceeds 180°F (82°C). Failure to follow this warning could cause property damage, personal injury or death.

1. Remove the wiring harness from the kit box. Pre-bend the terminal rings (GREEN wires) to 90°.
2. Using a flat blade screwdriver remove the two screws (marked 2 and 3) on the Number 11 switch, see **Figure 5**.
3. Place the terminal rings onto the 2 and 3 terminals, re-install the screws and tightly secure.
4. Insert the RED wire connector onto terminal 1, see **Figure 5**.
5. Insert the YELLOW wire connector onto terminal 4, see **Figure 5**.

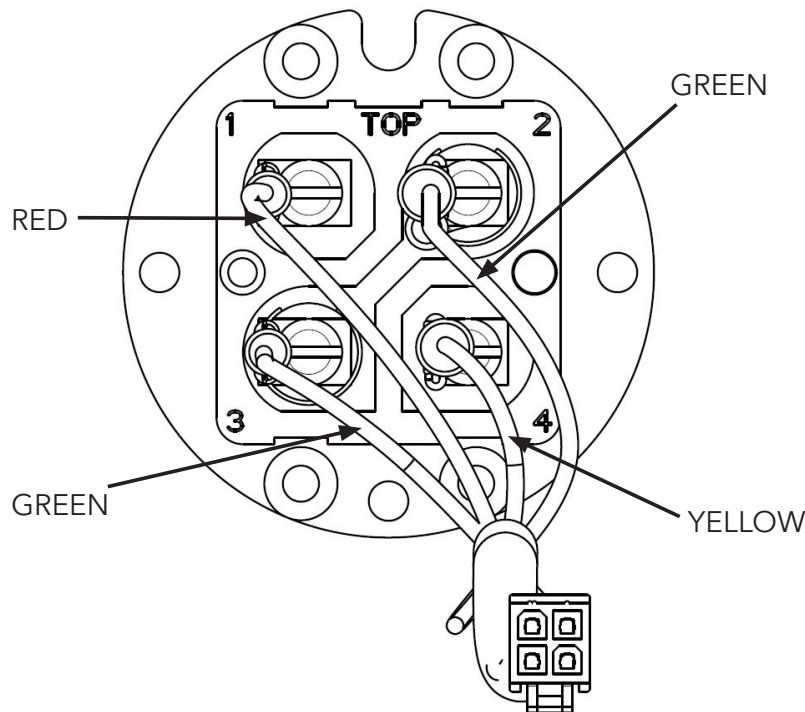


Figure 5

3. ELECTRICAL WIRING

NOTICE

Follow accepted electrical practices when installing fittings and making connections. Refer to and follow local codes and standards when selecting the types of electrical fittings and conduits.

3.1 GENERAL

1. Install an electrical conduit to the conduit hole on the e-11M bracket.
2. Wire-ways should be able to accommodate the burner circuit, alarm circuit, (and the 120VAC neutral hot wire, when applicable).
3. For all wire connections to the terminal block on the e-11M circuit board:
 - Strip about 1/3" of insulation from the wire.
 - Loosen the terminal screw but DO NOT REMOVE. Move the wire clamping plate back until the plate touches the underside of the screw head.
 - Insert the stripped end of the wire under the wire clamping plate and securely tighten the terminal screw.

INSTALLATION

3.2 SAME VOLTAGE FOR THE CONTROL UNIT AND BURNER CIRCUIT. (Figure 6)

NOTICE
Verify that the factory supplied jumper is installed between terminals H and C.

1. Connect HOT wire to terminal H.
2. Connect NEUTRAL wire to terminal N.
3. Connect wire from beginning of Burner circuit to terminal B.
4. Connect wire from end of burner circuit to terminal N.

3.3 DIFFERENT VOLTAGE FOR THE CONTROL UNIT AND BURNER CIRCUIT. (Figure 7)

NOTICE
Remove the factory supplied jumper installed between terminals H and C.

1. Connect HOT wire to terminal H.
2. Connect NEUTRAL wire to terminal N.
3. Connect HOT wire from a separate power supply (-S) to terminal C.
4. Connect wire from beginning of Burner circuit to terminal B.

NOTICE
The e-11M control requires a NEUTRAL wire in addition to a HOT terminal.

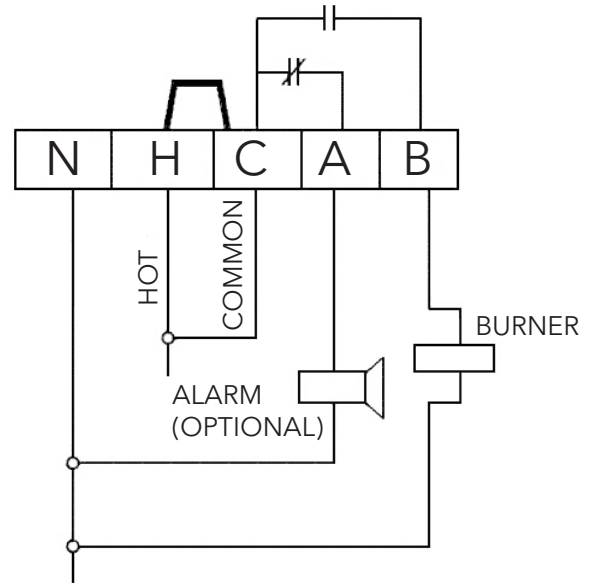


Figure 6

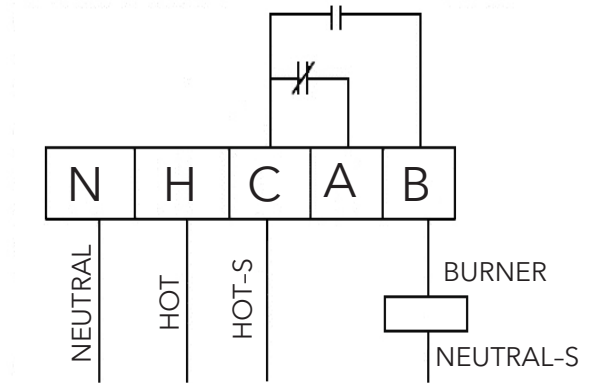


Figure 7

INSTALLATION

4. ELECTRICAL WIRING OF LWCO TO e-11M CONTROL UNIT.

1. Connect plug of wiring harness into the receptacle on circuit board on the e-11M control cover.
2. Reassemble the e-11M control together, by carefully aligning the cover with the bracket, ensuring that all wiring is tucked inside the control unit.
3. Secure the e-11M control unit by using a flat blade screwdriver to tighten the two screws, See **Figure 3**.

5. TESTING

5.1 START-UP

1. Before filling the system, turn on the electric power to the boiler.
2. Upon initial power up, GREEN and RED LEDs flash simultaneously 4 times.
3. GREEN LED turns ON and RED LED turns ON after flashing continuously for 5 times. The burner remains OFF.

5.2 FILL THE BOILER WITH WATER

1. Fill the boiler until the water level in the sight glass is above the LWCO casting line.
2. Press the MANUAL RESET button on the e-11M, the GREEN and RED LEDs will flash simultaneously 4 times.
3. Then the GREEN LED will turn ON and the RED LED will flash 3 times and then turn OFF.
4. The burner will turn ON.

5.3 MANUALLY TESTING THE CONTROL

1. Using the sight glass as a reference, slowly drain water from the boiler. The GREEN LED will remain ON.
2. The RED LED will flash 5 times and then turn ON. The burner will turn OFF.
3. Once the burner turns off, close all boiler drains and begin to re-fill the boiler.
4. Press the MANUAL RESET button on the e-11M, the GREEN and RED LEDs will flash simultaneously 4 times.
5. Then the GREEN LED will turn ON and the RED LED will flash 3 times and then turn OFF.
6. The burner will turn ON.

6. TROUBLESHOOTING

If the control fails to operate as required, perform the following diagnostic checks:

1. Verify that the water level in the boiler is at or above the normal line.
2. Re-check all wiring to ensure proper connections as specified in the boiler manufacturers wiring diagrams or these instructions.

7. MAINTENANCE



WARNING

Regular maintenance is required. Failure to follow this warning could cause property damage, personal injury or death.

1. Test LWCO weekly when the boiler is in operation.
2. Check all wiring for brittle or worn insulation.
3. Replace control every ten years.

COMMERCIAL WARRANTY

Warranty. For goods sold to commercial buyers, Seller warrants the goods sold to Buyer hereunder (with the exception of membranes, seals, gaskets, elastomer materials, coatings and other "wear parts" or consumables all of which are not warranted except as otherwise provided in the quotation or sales form) will be (i) be built in accordance with the specifications referred to in the quotation or sales form, if such specifications are expressly made a part of this Agreement, and (ii) free from defects in material and workmanship for a period of one (1) year from the date of installation or two (2) years from the date of manufacture, whichever shall occur first, unless a longer period is specified in the product documentation (the "Warranty").

Except as otherwise required by law, Seller shall, at its option and at no cost to Buyer, either repair or replace any product which fails to conform with the Warranty provided Buyer gives written notice to Seller of any defects in material or workmanship within ten (10) days of the date when any defects or non-conformance are first manifest. Under either repair or replacement option, Seller shall not be obligated to remove or pay for the removal of the defective product or install or pay for the installation of the replaced or repaired product and Buyer shall be responsible for all other costs, including, but not limited to, service costs, shipping fees and expenses. Seller shall have sole discretion as to the method or means of repair or replacement. Buyer's failure to comply with Seller's repair or replacement directions shall terminate Seller's obligations under this Warranty and render the Warranty void. Any parts repaired or replaced under the Warranty are warranted only for the balance of the warranty period on the parts that were repaired or replaced. Seller shall have no warranty obligations to Buyer with respect to any product or parts of a product that have been: (a) repaired by third parties other than Seller or without Seller's written approval; (b) subject to misuse, misapplication, neglect, alteration, accident, or physical damage; (c) used in a manner contrary to Seller's instructions for installation, operation and maintenance; (d) damaged from ordinary wear and tear, corrosion, or chemical attack; (e) damaged due to abnormal conditions, vibration, failure to properly prime, or operation without flow; (f) damaged due to a defective power supply or improper electrical protection; or (g) damaged resulting from the use of accessory equipment not sold or approved by Seller. In any case of products not manufactured by Seller, there is no warranty from Seller; however, Seller will extend to Buyer any warranty received from Seller's supplier of such products.

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Warranty. For goods sold for personal, family or household purposes, Seller warrants the goods purchased hereunder (with the exception of membranes, seals, gaskets, elastomer materials, coatings and other "wear parts" or consumables all of which are not warranted except as otherwise provided in the quotation or sales form) will be free from defects in material and workmanship for a period of one (1) year from the date of installation or two (2) years from the product date code, whichever shall occur first, unless a longer period is provided by law or is specified in the product documentation (the "Warranty").

Except as otherwise required by law, Seller shall, at its option and at no cost to Buyer, either repair or replace any product which fails to conform with the Warranty provided Buyer gives written notice to Seller of any defects in material or workmanship within ten (10) days of the date when any defects or non-conformance are first manifest. Under either repair or replacement option, Seller shall not be obligated to remove or pay for the removal of the defective product or install or pay for the installation of the replaced or repaired product and Buyer shall be responsible for all other costs, including, but not limited to, service costs, shipping fees and expenses. Seller shall have sole discretion as to the method or means of repair or replacement. Buyer's failure to comply with Seller's repair or replacement directions shall terminate Seller's obligations under this Warranty and render this Warranty void. Any parts repaired or replaced under the Warranty are warranted only for the balance of the warranty period on the parts that were repaired or replaced. The Warranty is conditioned on Buyer giving written notice to Seller of any defects in material or workmanship of warranted goods within ten (10) days of the date when any defects are first manifest.

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To make a warranty claim, check first with the dealer from whom you purchased the product or call +1-847-966-3700 for the name and location of the nearest dealer providing warranty service.

Xylem |'zīləm|

- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

We're a global team unified in a common purpose: creating advanced technology solutions to the world's water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services settings. Xylem also provides a leading portfolio of smart metering, network technologies and advanced analytics solutions for water, electric and gas utilities. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise with a strong focus on developing comprehensive, sustainable solutions.

For more information on how Xylem can help you, go to www.xylem.com



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