

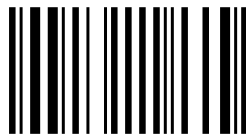


McDonnell & Miller

a xylem brand

INSTRUCTION MANUAL

MM-705F



No. 11, 11M and 11MV

Replacement Switch

For use on Series 61, 64, 764, 67,
767, 69 and 70 Low Water Cut-Offs

11 General Purpose (BLACK terminal panel)

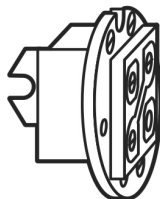
11M Manual Reset Option (BLACK terminal panel)

11MV Millivolt / 24V Option (RED terminal panel)

Electrical Ratings

Voltage	Motor Switch Rating (Amperes)		Pilot Duty
	Full Load	Locked Rotor	
120 VAC	7.4	44.4	120 VA at 120 or 240 VAC
240 VAC	3.7	22.2	

NOTE: 11MV is rated at 24VA @ 24 VAC to 120 VAC



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.



- To prevent electrical shock, turn off the electrical power before making electrical connections.
- The low water cut-off switch 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.



- We recommend that secondary (redundant) Low Water Cut-Off controls be installed on all steam boilers with heat input greater than 400,000 BTU/hour or operating above 15 psi steam pressure. At least two controls should be connected in series with the burner control circuit to provide safety redundancy protection should the boiler experience a low-water condition. Moreover, at each annual outage, the low water cutoffs should be dismantled, inspected, cleaned, and checked for proper calibration and performance.



- To prevent serious personal injury from steam and hot water make sure there is a discharge line from the blow down valve to a proper place of disposal.
- To prevent a fire, do not use this low water cut-off to switch currents over 7.2A, 1/3 HP at 120 VAC or 3.6A, 1/3 HP at 240 VAC, unless a starter or relay is used in conjunction with it.
- 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
- This product can expose you to chemicals including Lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to: www.P65Warnings.ca.gov.



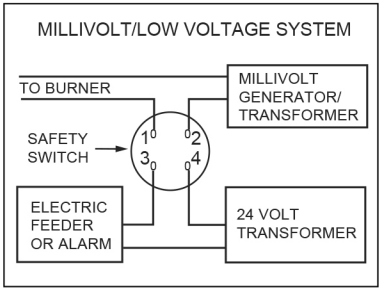
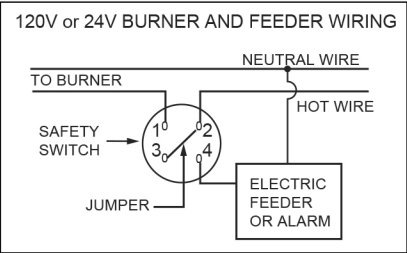
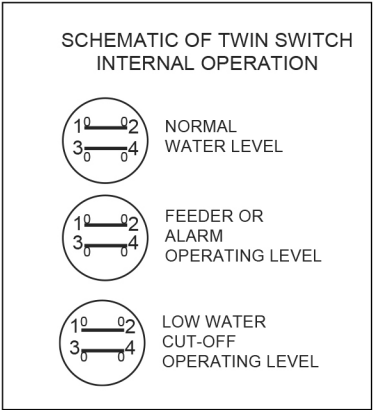
Failure to follow this warning could cause property damage, personal injury or death.

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.

OPERATION - 11 AND 11MV

The No. 11 switch contains two (2) single pole single throw switches to control a water feeder and the low water cut-off. The low water cut-off switch is between terminals marked "1" and "2". The switch at terminals "3" and "4" can be used to control a McDonnell & Miller electric water feeder or a low water alarm. The No. 11MV has the same switch arrangement as the No. 11. This switch has special contacts for the low water cut-off terminals "1" and "2" for use on millivolt-potential gas valve control systems or 24VAC burners. Some millivolt systems have terminals on the gas valve marked "L1" and "L2" which can be utilized for wiring a limit switch. Others have both thermostat and pressure control in series; if so, simply wire this pair of terminals in series with them. A second switch (at "3" and "4") can be used on 24 volt circuits only for an alarm or electric feeder control.



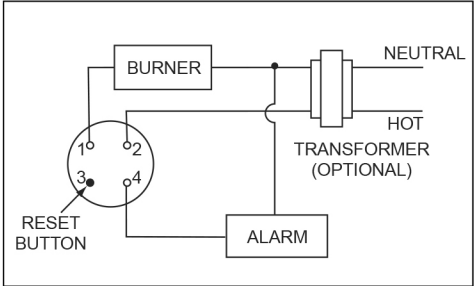
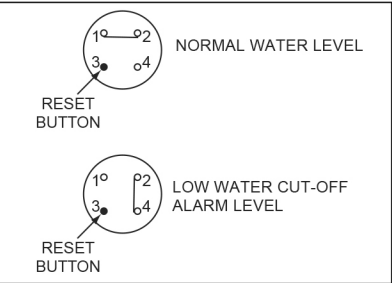
OPERATION - 11M

The No. 11M is a SPDT switch with a latching mechanism. Terminal "2" is the common. At normal water level, a circuit through terminal "1" is closed. It latches open in a low water condition.

Depressing the manual reset button unlatches the mechanism after normal water level has been restored to the control. Terminal "4" provides a contact only for an alarm at low water and is NOT intended for use with an electric feeder.

**CAUTION**

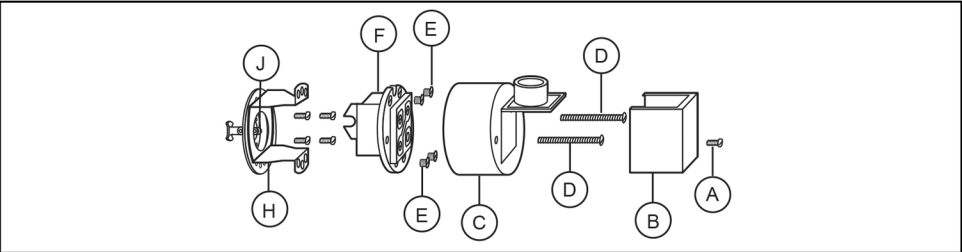
Do not electrically connect water feeder to a No. 11M. This model includes a manual reset feature, failure to follow this caution could result in boiler flooding and property damage.



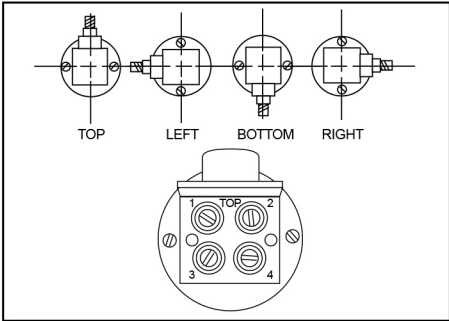
INSTALLATION/REPLACEMENT PROCEDURE

Turn off boiler power. Allow boiler to cool to room temperature. Using a flatblade screwdriver, remove the terminal cover (B). Tag and remove wiring from terminals. Remove screws (D) and housing (C). Remove four (4) switch mounting screws (E) and old switch (F). Install new switch, "TOP" notch up and being certain to align "U-shaped"

notch of switch rocker on float mechanism roller (J). Secure switch on bracket (H) with screws (E). Reassemble housing (C) with screws (D). Reconnect wiring as tagged to proper terminals and reassemble terminal cover (B) with screw (A). Restore power to boiler and test through several cycles.



Conduit housing is movable into any one of four positions. Remove two screws (D) and rotate to desired position. NOTE: 11M cannot be rotated out of "TOP" position due to reset button orientation requirement.



MAINTENANCE SCHEDULE:

- Blow down weekly during heating season.
- Check all wiring for brittle or worn insulation. Replace control every 10 years.

Follow ASME Boiler and Pressure Vessel Code - Section VI Paragraph 7.07G. It states that the controls should be dismantled annually by qualified personnel, to the extent necessary to insure freedom from obstructions and proper functioning of the working parts.

TROUBLESHOOTING

Problem:

1. Control does not turn burner off on low water.
2. Control does not turn electric feeder off.

Cause: Contacts may be fused from overload.

Test: With a continuity meter or ohm meter check if both circuits open as the rocker is moved through its operating range.

Solution: Replace the switch if either circuit remains closed through the test. Refer to the installation / replacement procedure.

If the switch functions normally off of the control, inspect the float and interior chamber condition for obstructions and debris, especially around the bellows area and at the gauge glass end.

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.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ANY AND ALL OTHER EXPRESS OR IMPLIED WARRANTIES, GUARANTEES, CONDITIONS OR TERMS OF WHATEVER NATURE RELATING TO THE GOODS PROVIDED HEREUNDER, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY EXPRESSLY DISCLAIMED AND EXCLUDED. EXCEPT AS OTHERWISE REQUIRED BY LAW, BUYER'S EXCLUSIVE REMEDY AND SELLER'S AGGREGATE LIABILITY FOR BREACH OF ANY OF THE FOREGOING WARRANTIES ARE LIMITED TO REPAIRING OR REPLACING THE PRODUCT AND SHALL IN ALL CASES BE LIMITED TO THE AMOUNT PAID BY THE BUYER FOR THE DEFECTIVE PRODUCT. IN NO EVENT SHALL SELLER BE LIABLE FOR ANY OTHER FORM OF DAMAGES, WHETHER DIRECT, INDIRECT, LIQUIDATED, INCIDENTAL, CONSEQUENTIAL, PUNITIVE, EXEMPLARY OR SPECIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOSS OF PROFIT, LOSS OF ANTICIPATED SAVINGS OR REVENUE, LOSS OF INCOME, LOSS OF BUSINESS, LOSS OF PRODUCTION, LOSS OF OPPORTUNITY OR LOSS OF REPUTATION.

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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").

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Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state.

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
Let's Solve Water

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