

June 2004

FDR Residential - Simplex, Duplex



Product Description

Eaton Cutler-Hammer Residential Fire Pump Controllers work in conjunction with single phase, electric, residential fire pumps and packages. They are designed to provide fire protection for single and multiple residences. Available as a Simplex or Duplex unit, all controllers are UL listed and meet or exceed NEMA requirements as well as NFPA 13D, Sprinkler Systems One and Two Family Dwellings and Manufactured Homes and NFPA 70, National Electrical code.

Product Features

Sequential Start Timer

A sequential start timer may be installed which is used to program a start delay after the pressure switch initiates an automatic start. In duplex controllers, a SST is standard and is wired to delay starting the second (lag) pump. The timer does not operate if starting is initiated via the start pushbutton or emergency start handle.

Run Period Timer

The run period timer turns on whenever the controller starts due to a drop in pressure. This ensures that the pump motor is not subjected to frequent starts if the pressure switch contact repeatedly closes and opens at short time intervals because of pressure fluctuations.

NEMA 2 Enclosures

All FDR controllers are supplied with NEMA 2 enclosures. Contact factory for availability of other styles.

Alarm & Status Indication

Both Simplex and Duplex controllers are equipped with illuminated pushbuttons which have dual use. The green "POWER ON" pushbutton functions as the "Start" pushbutton and indicates when the circuit breaker is closed. The red "PUMP RUNNING" pushbutton functions as the "Stop" pushbutton and indicates when the pump is running.



When the controller starts the fire pump, the red Pump Running light turns on as well as the buzzer mounted on the front panel.

Mounting Bars

Each FDR residential controller is equipped with upper and lower mounting bars as standard.



Optional Floor Mount Legs

Optional 12 inch high floor mounting legs are available upon request.

Dual Setting Pressure Switch

A dual setting 15-290 PSI pressure switch is used to sense a drop in pressure which actuates the residential controller. The setting adjustment screws are used for setting the pressure range and differential. There is one set of form-C output contacts rated at 10 amps.



NEMA Rated Contactors

Cutler-Hammer NEMA rated Freedom Contactors are used in all FDR Residential fire pump controllers. A wide variety of coil voltages are available for domestic and international use.

Emergency Start Operator

A mechanically operated emergency start handle activates the motor contactor independent of any electrical control circuits or pressure switch input.



Standards & Certification

The FDR Residential Fire Pump Controllers meet or exceed the requirements of Underwriters Laboratories, Underwriters Laboratories Canada, the Canadian Standards Association, New York City building code and are built to NFPA 13D standards.

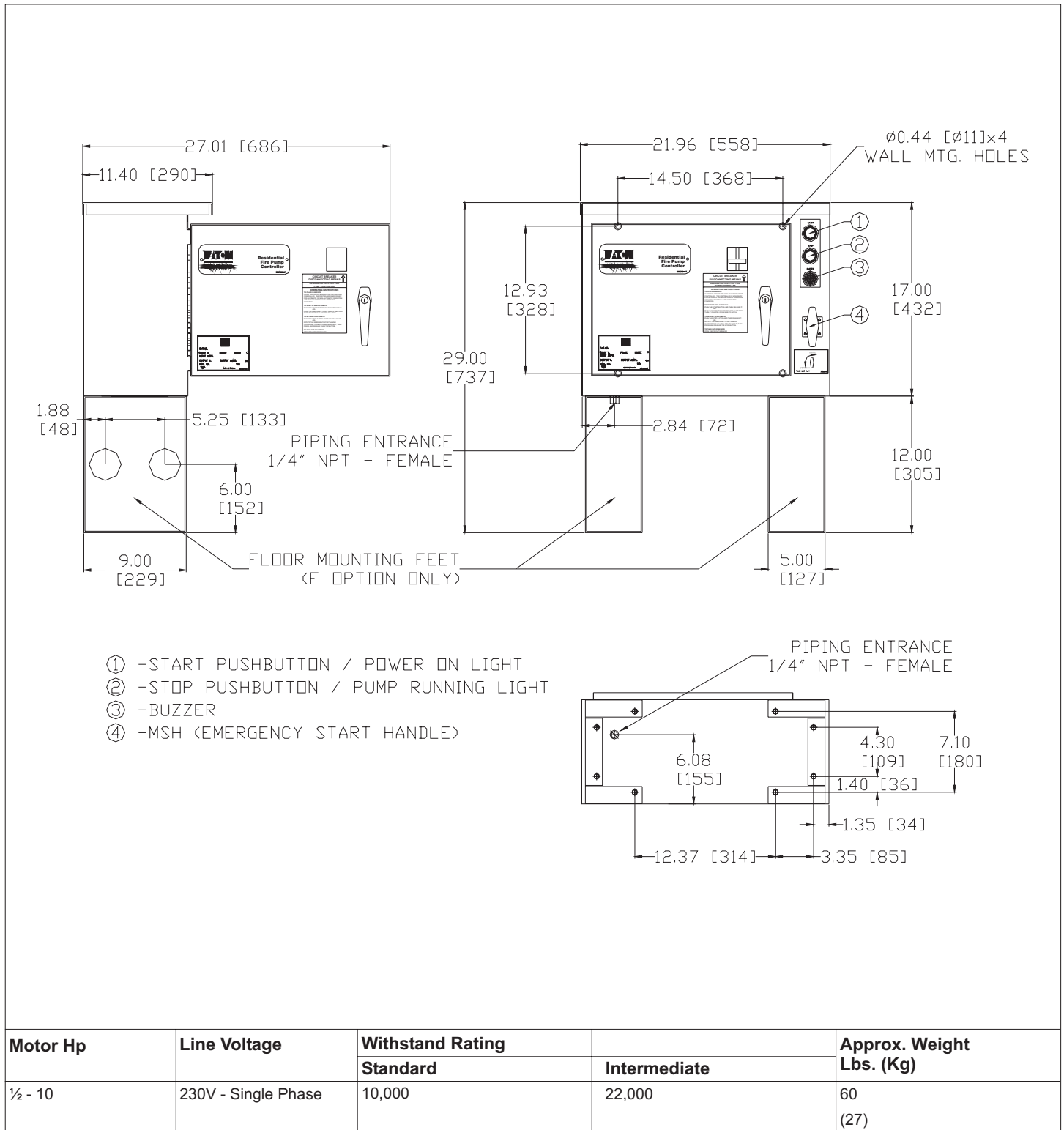


N. Y. C.
APPROVED

FDR Residential - Simplex, Duplex

Dimensions

Standard Enclosure - Simplex - Type NEMA 2



NOTES:

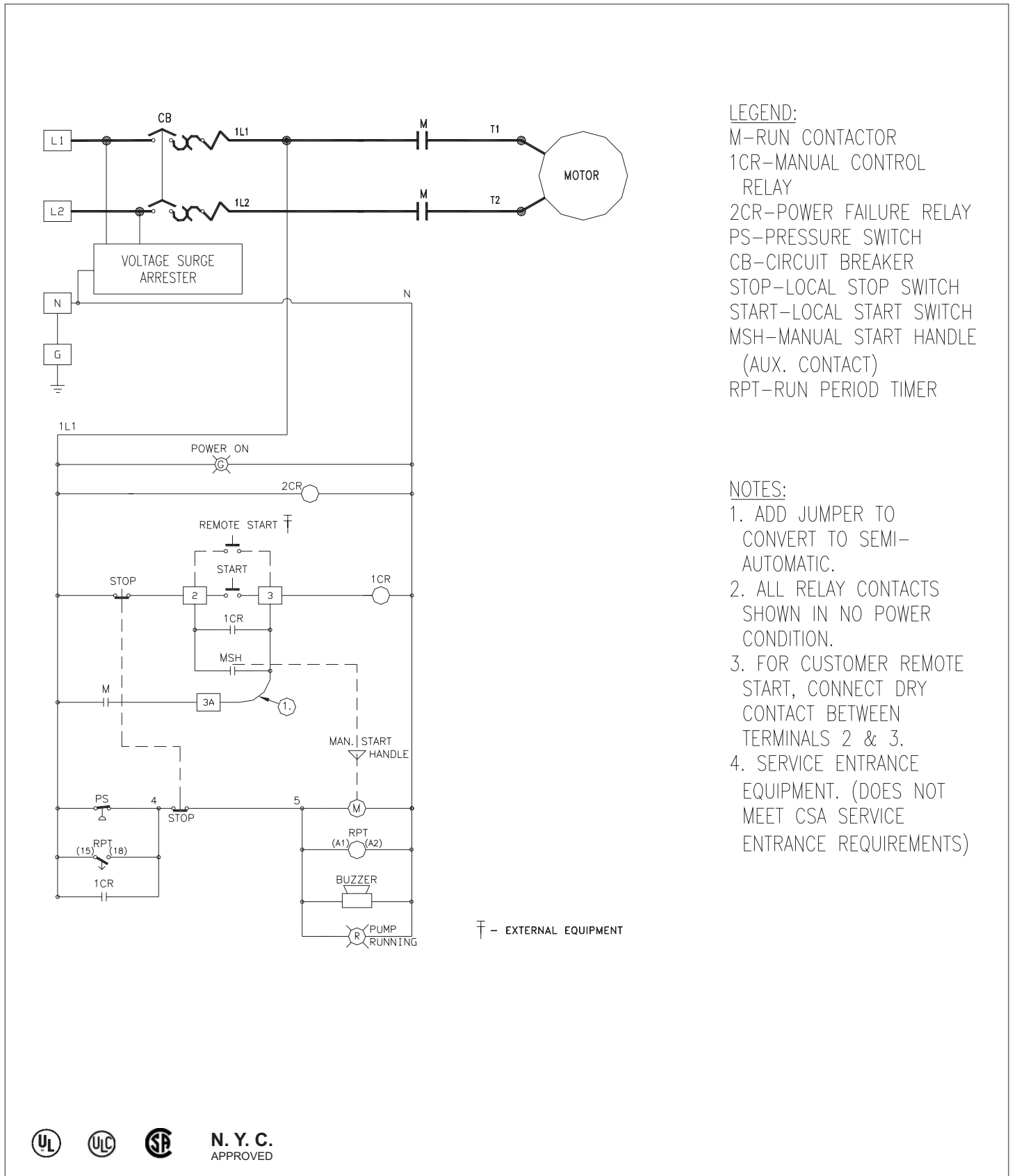
1. All enclosures finished in FirePump red.
2. Cable Entrance either top or bottom.
3. Standard Enclosure type NEMA 2.
4. Add 12" height for optional floor stands.



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FDR Residential - Simplex, Duplex

Electrical Wiring Schematic
FDR Residential - Simplex



LEGEND:
M-RUN CONTACTOR
1CR-MANUAL CONTROL RELAY
2CR-POWER FAILURE RELAY
PS-PRESSURE SWITCH
CB-CIRCUIT BREAKER
STOP-LOCAL STOP SWITCH
START-LOCAL START SWITCH
MSH-MANUAL START HANDLE (AUX. CONTACT)
RPT-RUN PERIOD TIMER

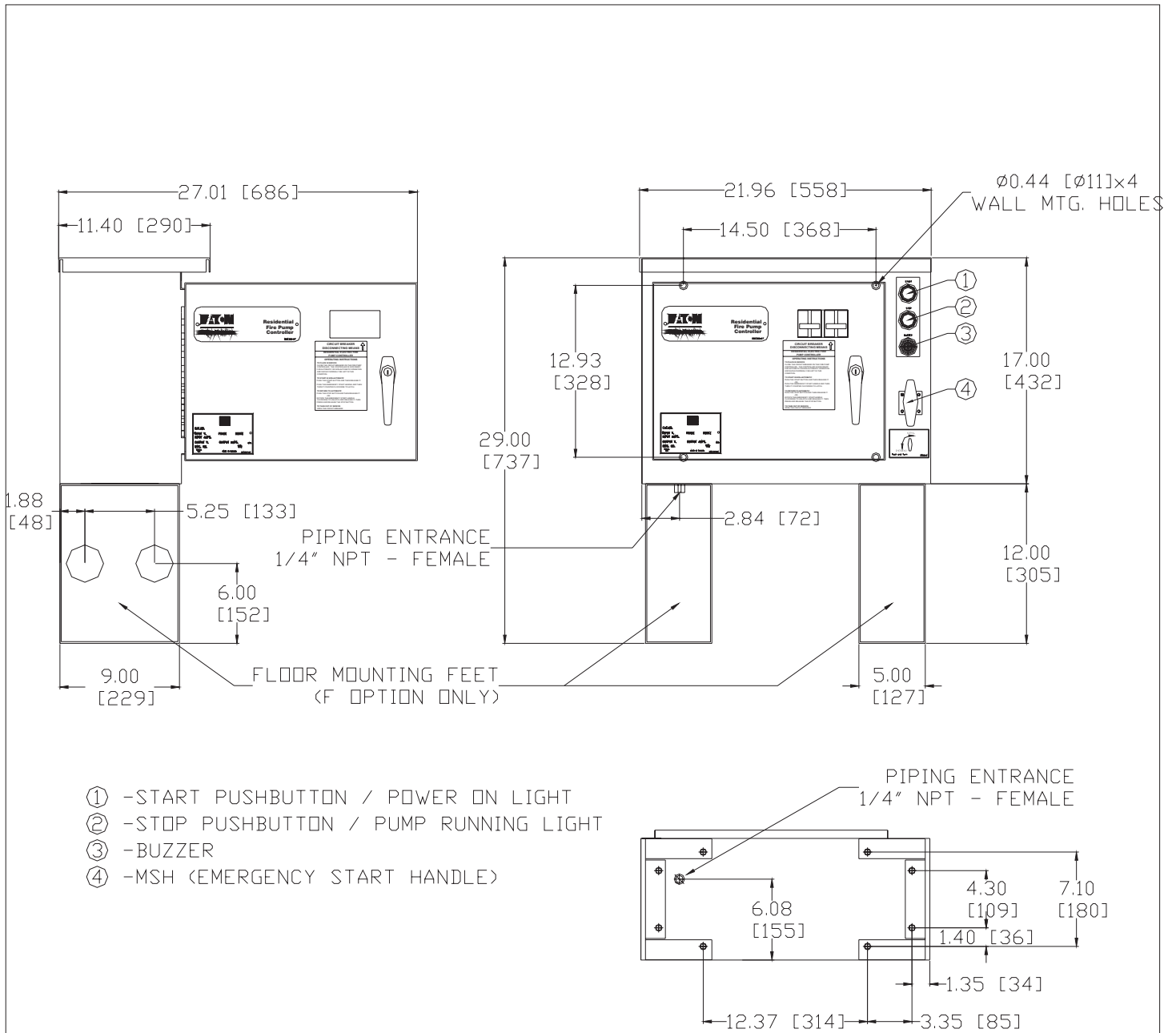
NOTES:
1. ADD JUMPER TO CONVERT TO SEMI-AUTOMATIC.
2. ALL RELAY CONTACTS SHOWN IN NO POWER CONDITION.
3. FOR CUSTOMER REMOTE START, CONNECT DRY CONTACT BETWEEN TERMINALS 2 & 3.
4. SERVICE ENTRANCE EQUIPMENT. (DOES NOT MEET CSA SERVICE ENTRANCE REQUIREMENTS)

⎓ - EXTERNAL EQUIPMENT

FDR Residential - Simplex, Duplex

Dimensions

Standard Enclosure - Duplex - Type NEMA 2



Motor Hp	Line Voltage	Withstand Rating		Approx. Weight Lbs. (Kg)
		Standard	Intermediate	
½ - 10	230V - Single Phase	10,000	22,000	60 (27)

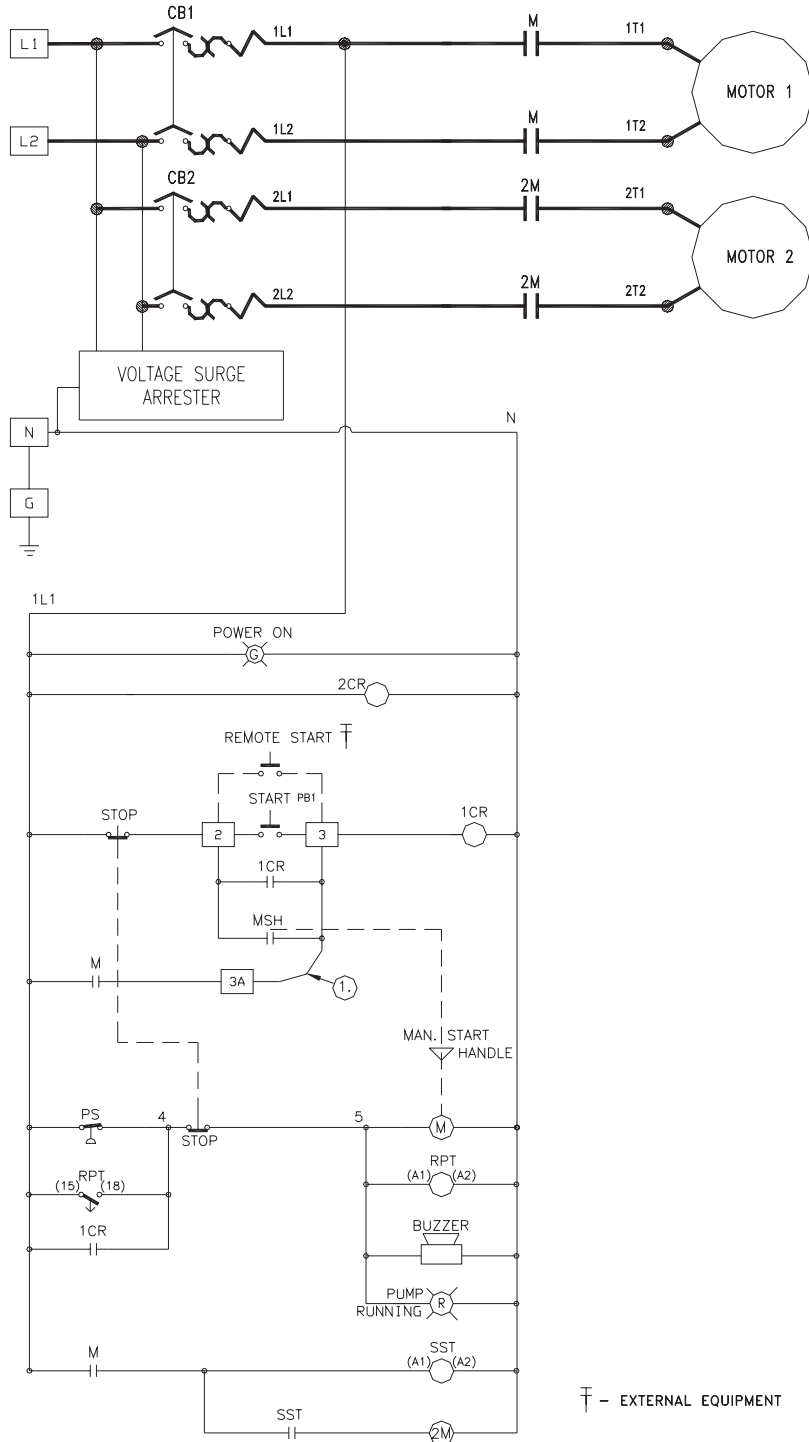


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Electrical Wiring Schematic
FDR Residential - Duplex



LEGEND:

- M-PUMP 1 RUN CONTACTOR
- 2M-PUMP 2 RUN CONTACTOR
- 1CR-MANUAL CONTROL RELAY
- 2CR-POWER FAILURE RELAY
- PS-PRESSURE SWITCH
- CB-CIRCUIT BREAKER
- STOP-LOCAL STOP SWITCH
- START-LOCAL START SWITCH
- MSH-MANUAL START HANDLE (AUX. CONTACT)
- RPT-RUN PERIOD TIMER
- SST-SEQUENTIAL START TIMER

NOTES:

1. ADD JUMPER TO CONVERT TO SEMI-AUTOMATIC.
2. ALL RELAY CONTACTS SHOWN IN NO POWER CONDITION.
3. FOR CUSTOMER REMOTE START, CONNECT DRY CONTACT BETWEEN TERMINALS 2 & 3.
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† - EXTERNAL EQUIPMENT



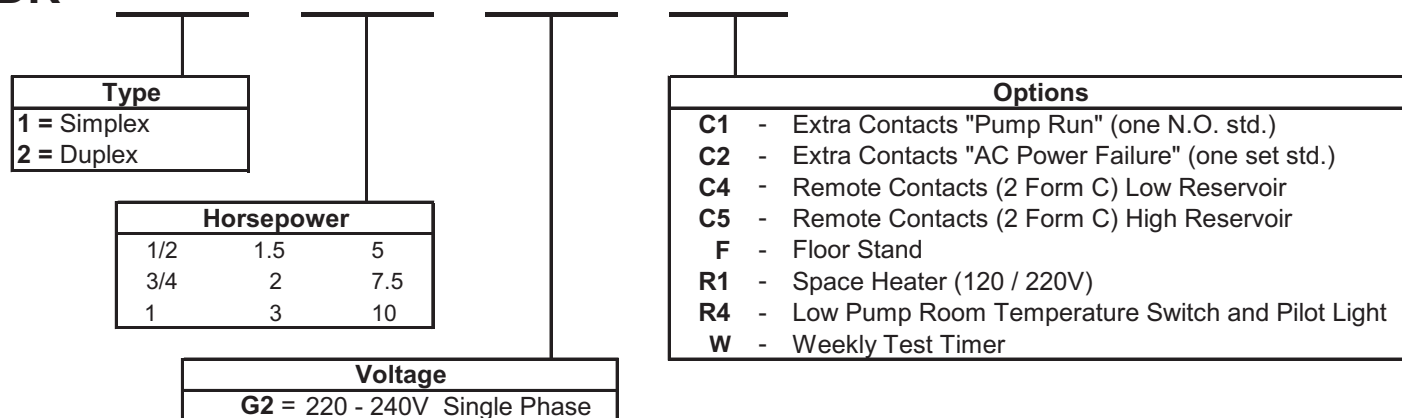
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Catalog Number Selection

FDR Residential Fire Pump Controller Catalog Numbering System

FDR



Product Selection

FDR Residential Fire Pump Controller Catalog Numbering System

Catalog Number Selection Chart - FDR Simplex

Catalog Number	Voltage	Hp	Price
FDR1-0.5-G2	220-240V	1/2	\$1,200
FDR1-0.75-G2	Single Phase	3/4	\$1,200
FDR1-1-G2		1	\$1,200
FDR1-1.5-G2		1.5	\$1,200
FDR1-2-G2		2	\$1,200
FDR1-3-G2		3	\$1,200
FDR1-5-G2		5	\$1,360
FDR1-7.5-G2		7.5	\$1,440
FDR1-10-G2		10	\$1,610

Catalog Number Selection Chart - FDR Duplex

Catalog Number	Voltage	Hp	Price
FDR2-0.5-G2	220-240V	1/2	\$1,600
FDR2-0.75-G2	Single Phase	3/4	\$1,600
FDR2-1-G2		1	\$1,600
FDR2-1.5-G2		1.5	\$1,600
FDR2-2-G2		2	\$1,600
FDR2-3-G2		3	\$1,600
FDR2-5-G2		5	\$1,770
FDR2-7.5-G2		7.5	\$1,865
FDR2-10-G2		10	\$2,040

Product Selection

Options

Catalog Number Option Selection - FDR Residential Fire Pump Controllers

Designation	Description	Price
C1	Extra Contacts "Pump Run" (one N.O. std.)	\$90
C2	Extra Contacts "AC Power Failure" (one set std.)	\$90
C4	Remote Contacts (2 Form C) Low Reservoir	\$90
C5	Remote Contacts (2 Form C) High Reservoir	\$90
F	Floor Stand	N/C
R1	Space Heater (120 / 220V)	\$250
R4	Low Pump Room Temperature Switch and Pilot Light	\$145
W	Weekly Test Timer	\$225

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FD20

Limited Service Controller



FD30

Across-the-Line



FD40

Part Winding



FD50

Primary Resistor



FD60

Autotransformer



FD70

WYE DELTA (Star-Delta)
Open Transition



FD80

WYE DELTA (Star-Delta)
Closed Transition



FD90

Soft Start



FT SERIES

Transfer Switches



FD100 / 110

Diesel Engine
Controllers



FDM

Medium Voltage
Controllers



FDF

Foam Pump
Controllers



FDC

Compact
Controllers



FDR

Residential
Controllers



FDJP / JY

Jockey Pump
Controllers



FDAP-M

Remote Alarm
Panels



For more information on Eaton Cutler-Hammer Fire Pump Controllers, email us at chcfirepump@eaton.com or call us at 1-877-860-7955.

EATON

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