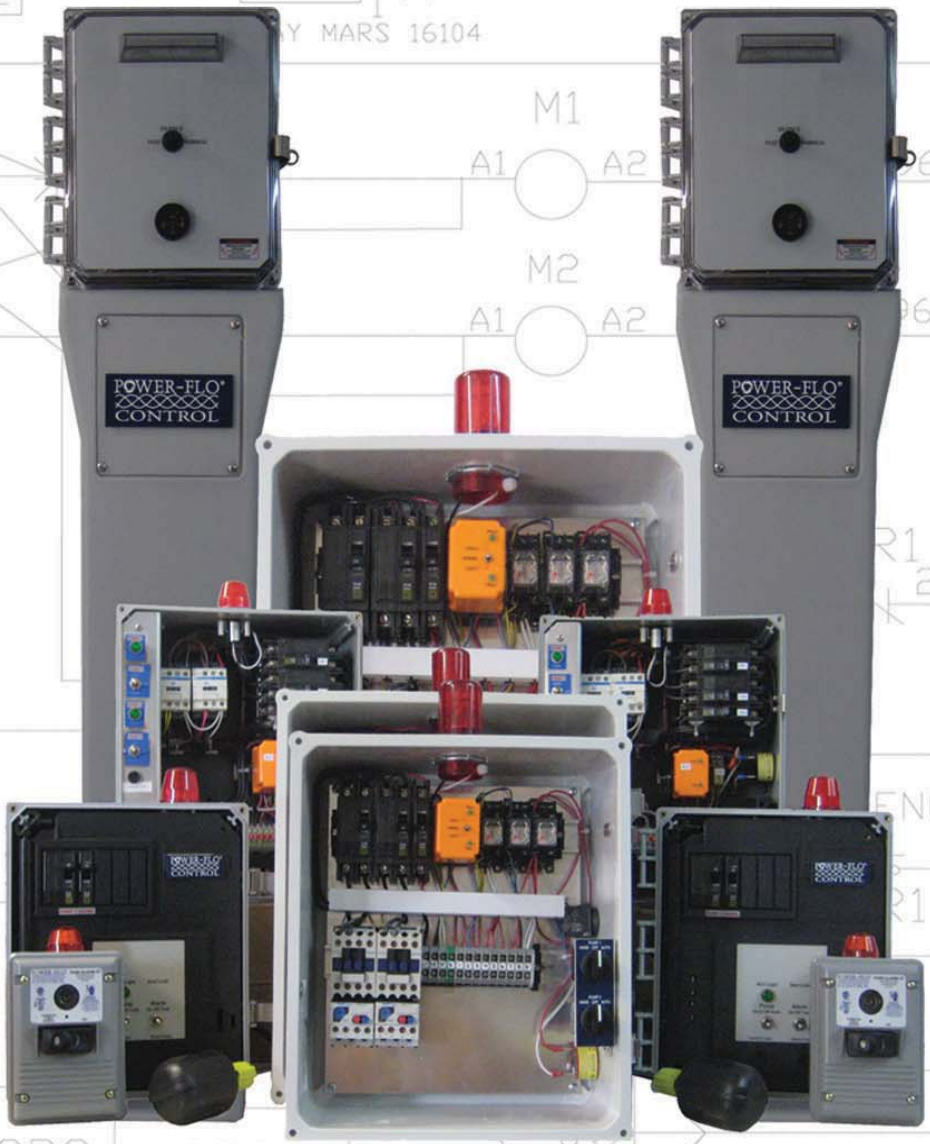
POWER-FLO® CONTROL



1-877-696-5554

POWER-FLO® CONTROL

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NOTES:

POWER-FLO® CONTROL
PHONE: 877-696-5554
FAX: 863-314-9953
WWW.POWERFLOCONTROL.COM

ORDERING INFORMATION

ORDERS: In order to properly process your orders, it's best if we receive a signed purchase order that includes the specific model or part numbers and also shows the price from the current pricing schedule or price quote with quote number. Orders may be faxed, mailed or sent by email.

VOLUME DISCOUNTS: Power-Flo Control offers special discounts for volume buyers. Blanket order programs are also available. Please contact your Power-Flo representative for details.

FREIGHT POLICY: Orders are shipped "best way" and generally include UPS and/or USPS. In the event you need overnight or second day service, the carrier will generally be UPS or FEDEX. In such cases, the shipping & handling costs will be added to the invoice. Shipping charges for all other product orders will be added to the invoice.

WARRANTY POLICY: Power-Flo Control offers a liberal warranty on finished products 12 months from the date of install or 18 months from the date of manufacture, which ever comes first. See the "Limited" Warranty statement included in the catalog for complete details.

RETURN POLICY:In some cases, Power-Flo Control may allow the return of a certain item(s). Returns are limited to current production items that have not been installed and are in original packaging. The standard restocking charge for such returns is a minimum 25%. Before returning any item(s) for credit, please contact Power-Flo Control for permission. If approved, an "Authorization for Return Goods/Materials" form will be sent to you for inclusion with thr return. The return authorization number must appear on all cartons and sent Prepaid to Power-Flo Control.

PowerFlo Control
5243 U.S. Hwy 27 South,
Sebring, Florida 33870
Phone: 863-633-8309
Fax: 863-314-9953
email: sales@powerflocontrol.com
www,powerflocontrol.com

POWER-FLO® CONTROL

"LIMITED" WARRANTY INFORMATION

During the time period subject to the conditions hereinafter set forth, Power-Flo Control will repair or replace the original user or consumer, any portion of a Power-Flo Control product which proves defective due to defective materials or workmanship of Power-Flo Control. Contact Power-Flo Control for warranty service. At all times Power-Flo Control shall have and posses the sole right and option to determine whether to repair or replace defective equipment, parts, or components. Damage due to conditions beyond the control of Power-Flo Control is NOT COVERED BY THIS WARRANTY. (Contact parcel or Freight Company for claims on freight damaged in transit)

WARRANTY PERIOD: Power-Flo Control shall warrant its alarm systems, control panels and accessories for a period of one (1) year from date of installation, or eighteen (18) months from the date of manufacture, whichever comes first.

LABOR, ETC., COSTS: Power-Flo Control shall **IN NO EVENT** be responsible or liable for the cost of field labor or other charges incurred by any customer in removing and/or re-affixing any Power-Flo Control product, part or component thereof.

THIS WARRANTY WILL NOT APPLY: (a) To defects or malfunctions resulting from failure to properly install, operate maintain the unit in accordance with printed instructions provided; (b) to units which are not installed in accordance with applicable local codes, ordinances and practices; (c) if the unit is moved from its original location, or; (d) if the unit is used for purposes other than for what it was designed and manufactured.

RETURN OF REPLACED COMPONENTS: Any item to be replaced under this Warranty must be returned to Power-Flo Control at Sebring, Florida, or such place as Power-Flo Control may designate, freight prepaid.

PRODUCT IMPROVEMENTS: Power-Flo Control reserves the right to change or improve its products or any portions thereof without being obliged to provide such change or improvement of units sold and/or shipped prior to such change or improvement.

WARRANTY EXCLUSIONS: As to any specific Power-Flo Control product, after the expiration of the time period of the warranty applicable thereto as set forth under the heading “Warranty Period” above. **THERE WILL BE NO WARRANTIES, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.**

LIABILITY LIMITATION: IN NO EVENT SHALL POWER-FLO CONTROL BE LIABLE OR RESPONSIBLE FOR CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES RESULTING FROM OR RELATED IN ANY MANNER TO ANY POWER-FLO CONTROL PRODUCT OR PARTS THEREOF.

For your warranty protection, the warranty card, if provided, should be completed and returned to Power-Flo Control within ten (10) days of installation date, the effective date of this warranty will be based upon the date of manufacture plus one hundred eighty (180) days.

Direct all notices, etc. to:
Power Flo Control
Service Department
5243 U.S. Hwy 27 South
Sebring, FL 33870
service@powerflocontrol.com

POWER-FLO® CONTROL

APPLICATION FOR OPEN ACCOUNTS

Fax: 516-812-6990

EXACT COMPANY NAME _____

DATE _____

BILLING ADDRESS _____ WEBSITE ADDRESS _____

CITY _____ STATE/ZIP _____ EMAIL ADDRESS _____

PHONE# ( ) _____ PERSON TO NOTIFY WHEN ACCOUNT IS OPEN _____

FAX# ( ) _____ FEDERAL ID# _____

CREDIT LIMIT DESIRED _____ MAIN BUSINESS ACTIVITY _____

YEAR ESTABLISHED: ☐ SOLE PROPRIETORSHIP ☐ PARTNERSHIP ☐ CORPORATION

OWNER OF PRINCIPAL OFFICERS _____

1. NAME _____ TITLE _____

   HOME ADDRESS _____

2. NAME _____ TITLE _____

   HOME ADDRESS _____

3. NAME _____ TITLE _____

   HOME ADDRESS _____

CREDIT REFERENCES (ONE BANK/MINIMUM THREE TRADE) **PROVIDE COMPLETE ADDRESSES**

BANK _____ PHONE ( ) _____

ADDRESS _____

CONTACT _____ ACCOUNT# _____

TRADE _____

1. _____ PHONE ( ) _____ FAX ( ) _____

2. _____ PHONE ( ) _____ FAX ( ) _____

3. _____ PHONE ( ) _____ FAX ( ) _____

We must charge Sales Tax until your resale certificate is in our files. Your signature indicates that the above information is accurate and that responsibility for reasonable legal or collection fees, should such become necessary, will be with the debtor, and also authorizes all parties listed above to provide us with credit information. Our standard terms are net 30 days.

BY _____ TITLE _____

FOR OFFICE USE ONLY

SUBMITTED BY DATE

CLS

OVER PLEASE →

POWER-FLO® CONTROL

This guaranty must be completed in full. Please enter the company name and date in the places provided.

PERSONAL GUARANTY OF ACCOUNT OF ______________________________

(ENTER COMPANY NAME)

1. In consideration of inducing Power-Flo Control (hereinafter individually and collectively referred to as "Seller") to sell merchandise to the above referenced buyer ("Buyer"), and for other good and valuable consideration from Seller, the undersigned, jointly and severally, hereby personally, absolutely and unconditionally guaranty the full, complete and punctual payment and performance, when due (whether at stated maturity, by acceleration or otherwise), of any and all obligations, Indebtedness and liabilities of every kind and nature no or hereafter owed by Buyer to Seller including, without limitation, amounts due to Seller from time to time for goods ordered by or on behalf of Buyer from Seller and/or goods delivered by or on behalf of Seller to or on account of Buyer (hereinafter collectively referred to as the "Obligations")
2. This Guaranty is a continuing guaranty, and shall remain in full force and effect until Seller receives written notice of the revocation hereof, mailed to Seller at its address specified on the front side hereof, attention: Gerald DiCunzolo, President, by certified or registered mail, return receipt requested, postage prepaid. Notwithstanding such revocation, the undersigned providing notice thereof shall continue to remain liable hereunder for all Obligations theretofore incurred, including any subsequent modifications, extensions or renewals of such Obligations. Upon payment of the Obligations in full, this Guaranty shall terminate. Notwithstanding anything contained herein to the contrary, if a claim is made upon Seller for repayment of recovery of any amount received by Seller pursuant hereto including, without limitation, claims in connection with any insolvency, bankruptcy or reorganization of Buyer or any claims of any invalid, fraudulent or preferential transfers, and Seller with any such claimant, including but not limited to Buyer, then in each such event, the obligations of the undersigned hereunder shall be reinstated as to such repaid amounts and this Guaranty shall be deemed to be reinstated and in full force and effect.
3. Each of the undersigned hereby waives notice of (I) the acceptance by Seller of this Guaranty; (II) the creation of Obligations or any liability to which this Guaranty applies; (III) notice or proof of reliance by Seller upon this Guaranty; (IV) default by Buyer in the payment of any of the Obligations; and (V) any adverse change in Buyer's financial status. This Guaranty shall be enforceable by Seller without regard to, and without the necessity for resorting to, any property, or interest therein, held by Seller at any time or from time to time as security for the payment of any Obligations guaranteed hereby, and without regard to, and without the necessity for resorting to, the Buyer or any other guarantor of or surety on any Obligations of Buyer to Seller, it being the intention that this is a guaranty of payment and not a guaranty of collection.
4. Seller may, without notice and without the consent of any of the undersigned, and without impairing or in anyway affecting the liability of any of the undersigned to Seller hereunder (I) extend the time for payment of, or alter, modify, change or accelerate the terms of payment of, any Obligations guaranteed hereby; or (II) release, settle or compromise with any other guarantor or guarantors of, or surety or sureties of, any Obligations of Buyer to Seller or release, settle or compromise any of the Obligations with Buyer or exercise or refrain from exercising any rights against Buyer.
5. This Guaranty shall remain in full force and effect regardless of the subsequent dissolution, incorporation, merger, consolidation or other change in Buyer. I the event that Seller for any reason whatsoever shall deem it necessary to refer this Guaranty to an attorney for the enforcement hereof, or any rights hereunder, by suit or otherwise, there shall be immediately due from the undersigned, in addition to the Obligations guaranteed hereunder.
6. This Guaranty may not be assigned by any of the undersigned in whole or in part without the prior written consent of Seller. This Guaranty may not be modified except by a writing to such explicit effect duly executed by the party to be charged.
7. This Guaranty shall be governed by and construed in accordance with the laws of the state of New York, without giving effect to the principles thereof relating to conflicts or choice of law, if any.
8. This Guaranty sets forth the entire agreement and understanding of the parties in respect of the subject matter contained herein, and supersedes all prior agreements, promises, understandings, covenants, arrangements and communications, whether oral or written, by each of the undersigned and Seller or by related or unrelated third party.

I hereby authorize POWER-FLO CONTROL to obtain information necessary to make a credit decision and to obtain a current credit report from a local credit reporting agency.

INDIVIDUAL GUARANTORS

SIGNATURE ____________________ PRINT NAME ____________________

GUARANTOR

S.S. NO. ____________________ HOME PHONE NO. ____________________

PRINT HOME ADDRESS __________ WITNESS SIGNATURE ____________________

CITY / STATE / ZIP ____________________ PRINT NAME ____________________

SIGNATURE ____________________ PRINT NAME ____________________

GUARANTOR

S.S. NO. ____________________ HOME PHONE NO. ____________________

PRINT HOME ADDRESS __________ WITNESS SIGNATURE ____________________

CITY / STATE / ZIP ____________________ PRINT NAME ____________________

SIGNATURE ____________________ PRINT NAME ____________________

GUARANTOR

S.S. NO. ____________________ HOME PHONE NO. ____________________

PRINT HOME ADDRESS __________ WITNESS SIGNATURE ____________________

CITY / STATE / ZIP ____________________ PRINT NAME ____________________

ACCEPTED AND AGREED: POWER-FLO CONTROL BY:

NAME: TITLE:

POWER-FLO® CONTROL

PF-HWA INDOOR/OUTDOOR LEVEL ALARM SYSTEM

This alarm system monitors liquid levels in lift pump chambers, sump pump basins, holding tanks, sewage, agricultural, and other non-potable water applications. The PF-HWA indoor/outdoor alarm can serve as a high or low level alarm depending on the float switch model used. The alarm horn sounds and the red beacon illuminates when a potentially threatening liquid level condition occurs. A "power on" light on the switch indicates power to the alarm panel.

FEATURES

SIGNALING TYPE E UL LISTED 288X

CSA LR54245

- Enclosure meets Type 3R water-tight standard.
- Automatic alarm reset, horn silence switch, and alarm test switch.
- Alarm horn sounds at 85 decibels at 10 feet (3 meters).
- Alarm system (when installed on separate circuit) operates even if pump circuit fails.
- Complete package includes standard PFSGM control switch with 30 feet (9 meters) of cable (other lengths available) and mounting clamp.
- UL Listed for indoor or outdoor use.
- CSA Certified.

OPTIONS

When ordered with the alarm, the system is available with:

- alternate float switch models for high or low liquid level warning.
- auxiliary dry normally open contacts for easy attachment of remote devices.
- premounted terminal block so enclosure can also be used as a junction box for splicing pump, pump switch, and pump power. Meets NEC standard for junction boxes.
- 6 foot (1.8 meter) power cord and liquid-tight connectors.

SPECIFICATIONS

VOLTAGE: 120 VAC, 50/60 Hz, 8.5 watts max. (alarm condition)

ALARM ENCLOSURE: 6.5 x 4.5 x 3.0 inch (16.51 x 11.43 x 7.62 cm), indoor-outdoor, weatherproof, thermoplastic meets Type 3R water-tight standard

ALARM HORN: 85 decibels at 10 feet (3 meters), meets Type 3R water-tight standard as installed by factory

ALARM BEACON: meets Type 3R water-tight standard as installed by factory

TEST/SILENCE SWITCH: certified to IP66 and IP68 standards

AUXILIARY ALARM CONTACTS (OPTIONAL): 120 VAC, 5 amps max., 50/60 Hz

PRE-MOUNTED TERMINAL BLOCK (OPTIONAL): 20 amps, 120/230 VAC

POWER CORD: 6 foot (1.8 meter) cord with 120 VAC plug

FLOAT SWITCH: PFSGM control switch
Cable: 30 feet (9 meters), flexible 18 gauge, 2 conductor (UL) SJOW, water-resistant (CPE)
Float: 2.74 inch diameter x 4.83 inch long (7 cm x 12.3 cm), high impact, corrosion resistant polypropylene housing for use in sewage and non-potable water up to 140°F (60°C)
Maximum Water Depth: 30 feet (9 meters), 13 psi
Electrical: 5 amps, 125 VAC/250 VAC, 50/60 Hz

POWER-FLO® CONTROL

ORDERING INFORMATION

120 VAC		
PART#	DESCRIPTION	SHIPPING WEIGHT
PF-HWA	120 VAC w/PF30SGMNO High Water	3.97 lbs.

H = **H**igh **L**evel **L** = **L**ow **L**evel **X** = **N**o **F**loat
MASTER CARTON holds 12 boxed units.

UL Listed for Water & Sewage
SIGNALING TYPE E UL LISTED 288X
LR54245

OPTIONS

CONTROL SWITCH OPTIONS
The **PF-HWA** alarm system comes standard with a 30 foot PFCSGM control switch with mounting clamp.
Other float switches are available. See control switch section of the catalog.

To determine the price of alarm with an alternate float, add the price of the part number with "no float" to the price of the float switch.

POWER-FLO® CONTROL
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PFC-HWAP
PEDESTAL MOUNTED LEVEL ALARM

This pedestal mounted level alarm with battery back-up is used to measure high or low liquid levels in sump & sewage basins, septic tanks, aeration systems, cisterns & atmospheric storage tanks, chemical solution tanks and many other applications.

FEATURES

- Waterproof polycarbonate enclosure and pedestal
- Flashing red alarm light with LED lights - 20 year life expectancy
- High decibel piezo audible
- Safe 12 VDC to alarm float switch
- Internal outlet for piggyback pump operation (Piggyback float not included)
- Screw cover
- Pedestal fits over a 4X4 or is ready for direct buiral to 2 feet below grade
- Access door allows installer to quickly run required wires up the pedestal
- Battery back-up alarm system (9V battery not included)
- System works during power outages
- Installs and wires quickly
- All wiring concealed in pedestal (no exposed wires)
- External "Test/Silence/Normal" operation switch

OPTIONS

- locking hasp

SPECIFICATIONS

VOLTAGE: Primary: 115 VAC

BATTERY BACKUP POWER: 9 VDC

ALARM DIMENSIONS: 9.25 inch x 49 inch x 7.25 inch (15.24 x 10.16 x 5.71 cm), polycarbonate.

FLOAT SWITCH:
Cable: 30 feet (9 meters)
Float: Normally Open Mini Mercury

115 VAC		
PART#	**DESCRIPTION**	**SHIPPING WEIGHT**
PFC-HWAP	PEDESTAL HIGH WATER ALARM	11 lbs.

PHONE: 877-696-5554
FAX: 863-314-9953
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SINGLE PHASE SIMPLEX ECONOMY CONTROL

This Single Phase Simplex Economy control panel can be used to start and stop pumps for sump & sewage basins, septic tank & aeration systems, cistern & atmospheric storage tanks, chemical solution tanks and many more applications.

FEATURES

- NEMA 4X fiberglass enclosure
- Flashing red alarm light
- Pump run light
- High decibel piezo audible
- Stainless door latches w/padlock hasp
- External mounting feet
- Polycarbonate inner door
- 2 pole, definite purpose contactor
  (2 HP max. - motors with on-winding overload protection)
- "Hand/Off/Auto" heavy duty toggle
- Alarm "On/Off/Test" heavy duty toggle
- Raised field wiring terminal strips
- Motor circuit breaker
- Control circuit breaker
- Individual 3 amp control/alarm circuit fuses
- UL 508A Listing

OPTIONS

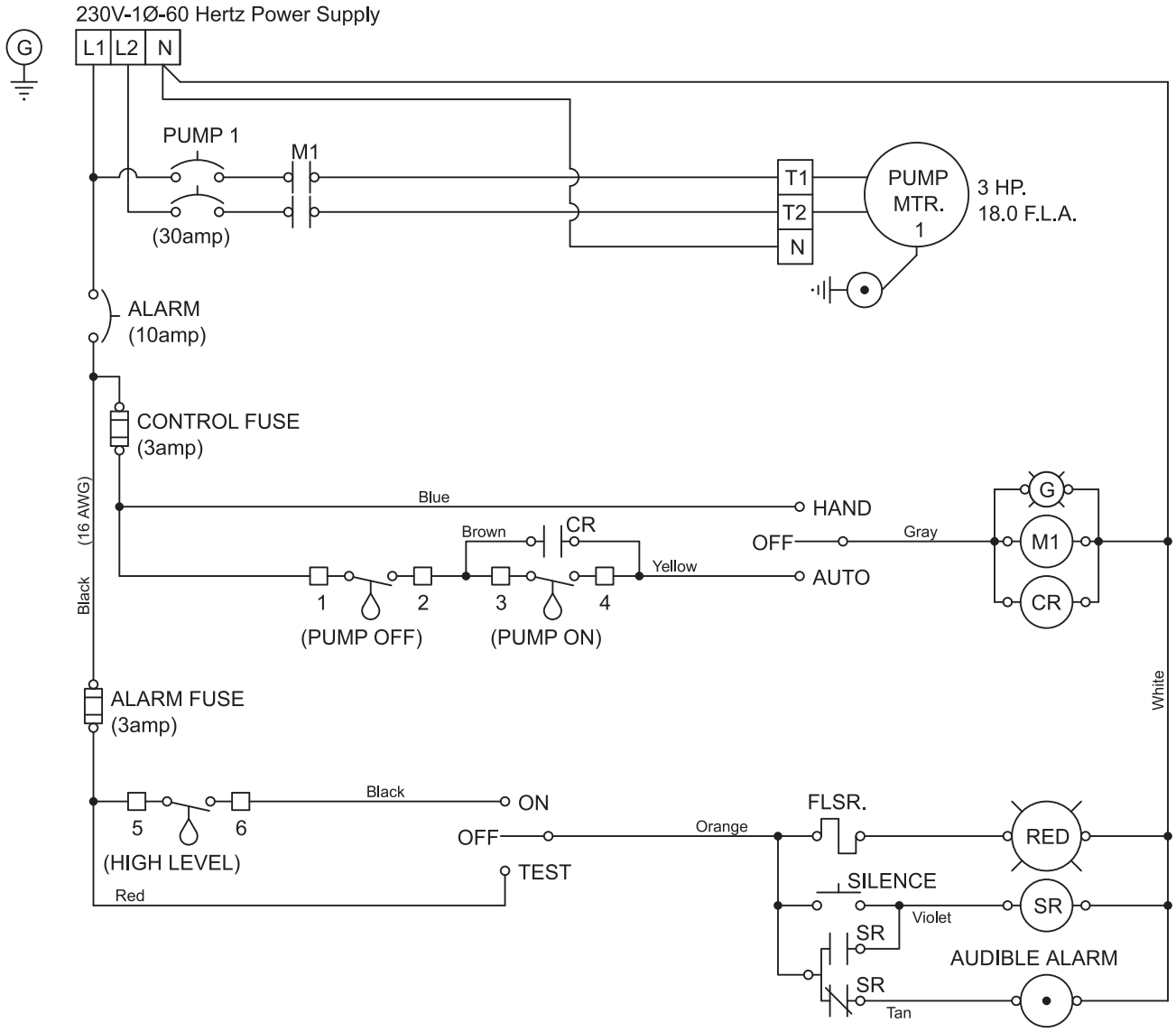
- Separate alarm circuit breaker

SPECIFICATIONS & ORDERING INFORMATION

Model Number Scheme - Example: PF100

PF100
- Voltage and Phase - (0= 115V) ● (1 = 200V, 1 Phase) ● (2 = 200V, 3 Phase) ● (3 = 230V, 1 Phase) ● (4 = 230V, 3 Phase) ● (5 = 460V, 3 Phase)
- Horsepower
- (1 = Simplex) ● (2 = Duplex)

Model#	Location Use	Max FLA	Enclosure Type	Enclosure Material	Input Power VAC	Phase	HP	Audible Included	Alarm Fuse	Control Fuse	Approx Ship Weight
PF100	Outdoor	12	NEMA 4X	Fiberglass	115	1	.5	Piezo	3 Amp	3 Amp	15 lbs.
PF101	Outdoor	12	NEMA 4X	Fiberglass	200	1	.5	Piezo	3 Amp	3 Amp	15 lbs.
PF103	Outdoor	12	NEMA 4X	Fiberglass	230	1	.5	Piezo	3 Amp	3 Amp	15 lbs.
PF121	Outdoor	18	NEMA 4X	Fiberglass	200	1	2	Piezo	3 Amp	3 Amp	15 lbs.
PF123	Outdoor	18	NEMA 4X	Fiberglass	230	1	2	Piezo	3 Amp	3 Amp	15 lbs.



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SINGLE PHASE DUPLEX ECONOMY CONTROL

This Single Phase Duplex Economy control panel can be used to start and stop pumps for sump & sewage basins, septic tank & aeration systems, cistern & atmospheric storage tanks, chemical solution tanks and many more applications.

FEATURES

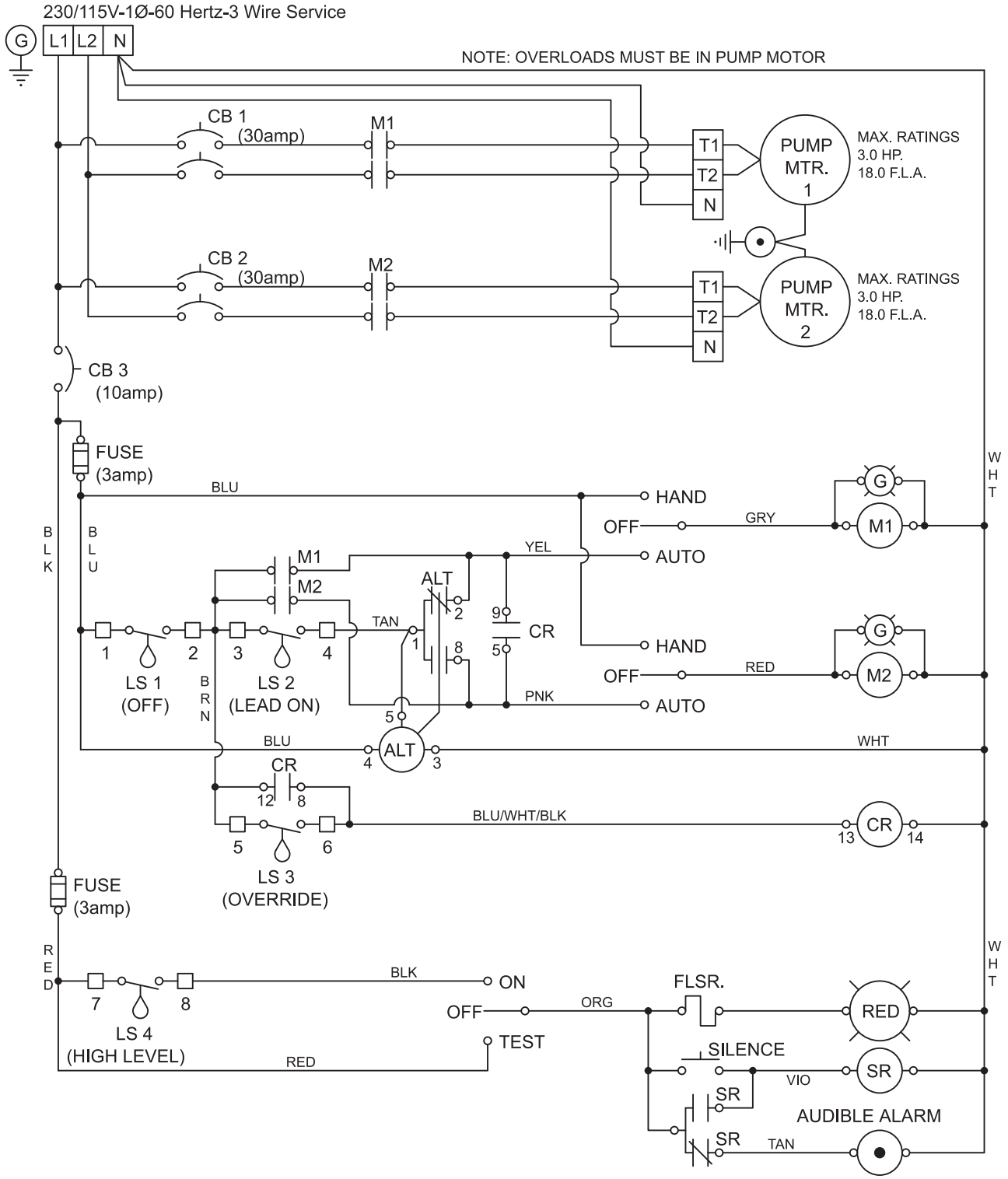
- NEMA 4X fiberglass enclosure
- Flashing red alarm light
- 2- pump run lights
- High decibel piezo audible
- Stainless door latches w/padlock hasp
- External mounting feet
- Two 3 pole, non-reversing contactors (2 HP max. - motors with on-winding overload protection)
- Two "Hand/Off/Auto" heavy duty toggles
- Alarm "On/Off/Test" heavy duty toggle
- Field wiring terminal strips
- Two motor circuit breakers
- Control circuit breaker
- Individual 3 amp control/alarm circuit fuses
- UL 508A Listing

SPECIFICATIONS & ORDERING INFORMATION

Model Number Scheme - Example: PF200

PF200
- Voltage and Phase - (0= 115V) ● (1 = 200V, 1 Phase) ● (2 = 200V, 3 Phase) ● (3 = 230V, 1 Phase) ● (4 = 230V, 3 Phase) ● (5 = 460V, 3 Phase)
- Horsepower
- (1 = Simplex) ● (2 = Duplex)

Model#	Location Use	Max FLA	Enclosure Type	Enclosure Material	Input Power VAC	Phase	HP	Audible Included	Alarm Fuse	Control Fuse	Approx Ship Weight
PF200	Outdoor	12	NEMA 4X	Fiberglass	115	1	.5	Piezo	3 Amp	3 Amp	20 lbs.
PF201	Outdoor	12	NEMA 4X	Fiberglass	200	1	.5	Piezo	3 Amp	3 Amp	20 lbs.
PF203	Outdoor	12	NEMA 4X	Fiberglass	230	1	.5	Piezo	3 Amp	3 Amp	20 lbs.
PF221	Outdoor	18	NEMA 4X	Fiberglass	200	1	2	Piezo	3 Amp	3 Amp	20 lbs.
PF223	Outdoor	18	NEMA 4X	Fiberglass	230	1	2	Piezo	3 Amp	3 Amp	20 lbs.



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SINGLE PHASE SIMPLEX 115V CONTROL

This Single Phase Simplex 115 VAC control panel can be used to start and stop pumps for sump & sewage basins, septic tank & aeration systems, cistern & atmospheric storage tanks, chemical solution tanks and many more applications.

FEATURES

- NEMA 4X fiberglass enclosure
- Flashing red alarm light
- Amber run light
- High decibel audible alarm (optional)
- Stainless piano hinged door
- Stainless door latches w/padlock hasp
- External mounting feet
- 3 pole, non-reversing contactor (2 HP max. - motors with on-winding overload protection)
- "Hand/Off/Auto" heavy duty toggle
- Alarm "On/Off/Test" heavy duty toggle
- Field wiring terminal strips
- Motor circuit breaker
- Control circuit breaker
- Individual 3 amp control/alarm circuit fuses

OPTIONS

- Piezo Buzzer
- Alarm Bell
- Vibrating Horn
- UL 508A Listing

Note: Automatic reset silence circuit included with all audibles

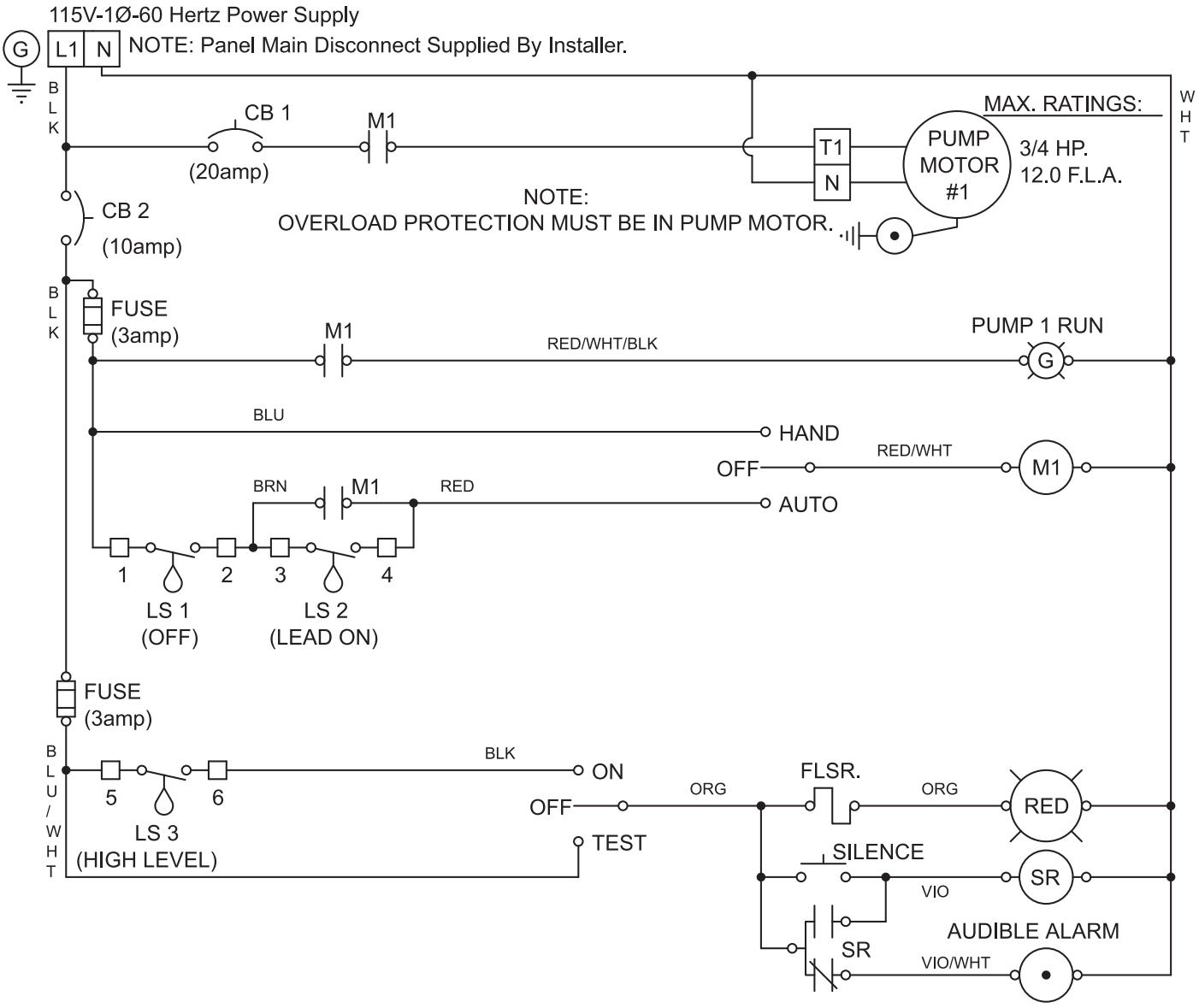
SPECIFICATIONS & ORDERING INFORMATION

Model Number Scheme - Example: PFC1000

PFC1000

- Voltage and Phase - (0= 115V) ● (1 = 200V, 1 Phase) ● (2 = 200V, 3 Phase) ● (3 = 230V, 1 Phase) ● (4 = 230V, 3 Phase) ● (5 = 460V, 3 Phase)
- Horsepower
- (1 = Simplex) ● (2 = Duplex)

Model#	Location Use	Max FLA	Enclosure Type	Enclosure Material	Input Power VAC	Phase	HP	Audible Included	Alarm Fuse	Control Fuse	Approx Ship Weight
PFC1000	Outdoor	12	NEMA 4X	Fiberglass	115	1	.5	Piezo	3 Amp	3 Amp	11 lbs.



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PHONE: 877-696-5554
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SINGLE PHASE SIMPLEX 230V CONTROL

This Single Phase Simplex 230 VAC control panel can be used to start and stop pumps for sump & sewage basins, septic tank & aeration systems, cistern & atmospheric storage tanks, chemical solution tanks and many more applications.

FEATURES

- NEMA 4X fiberglass enclosure
- Flashing red alarm light
- Amber run light
- High decibel audible alarm (optional)
- Stainless piano hinged door
- Stainless door latches w/padlock hasp
- External mounting feet
- 3 pole, non-reversing contactor
  (2 HP max. - motors with on-winding overload protection)
- "Hand/Off/Auto" heavy duty toggle
- Alarm "On/Off/Test" heavy duty toggle
- Field wiring terminal strips
- Motor circuit breaker
- Control circuit breaker
- Individual 3 amp control/alarm circuit fuses

OPTIONS

- Piezo Buzzer
- Alarm Bell
- Vibrating Horn
- UL 508A Listing

Note: Automatic reset silence circuit included with all audibles

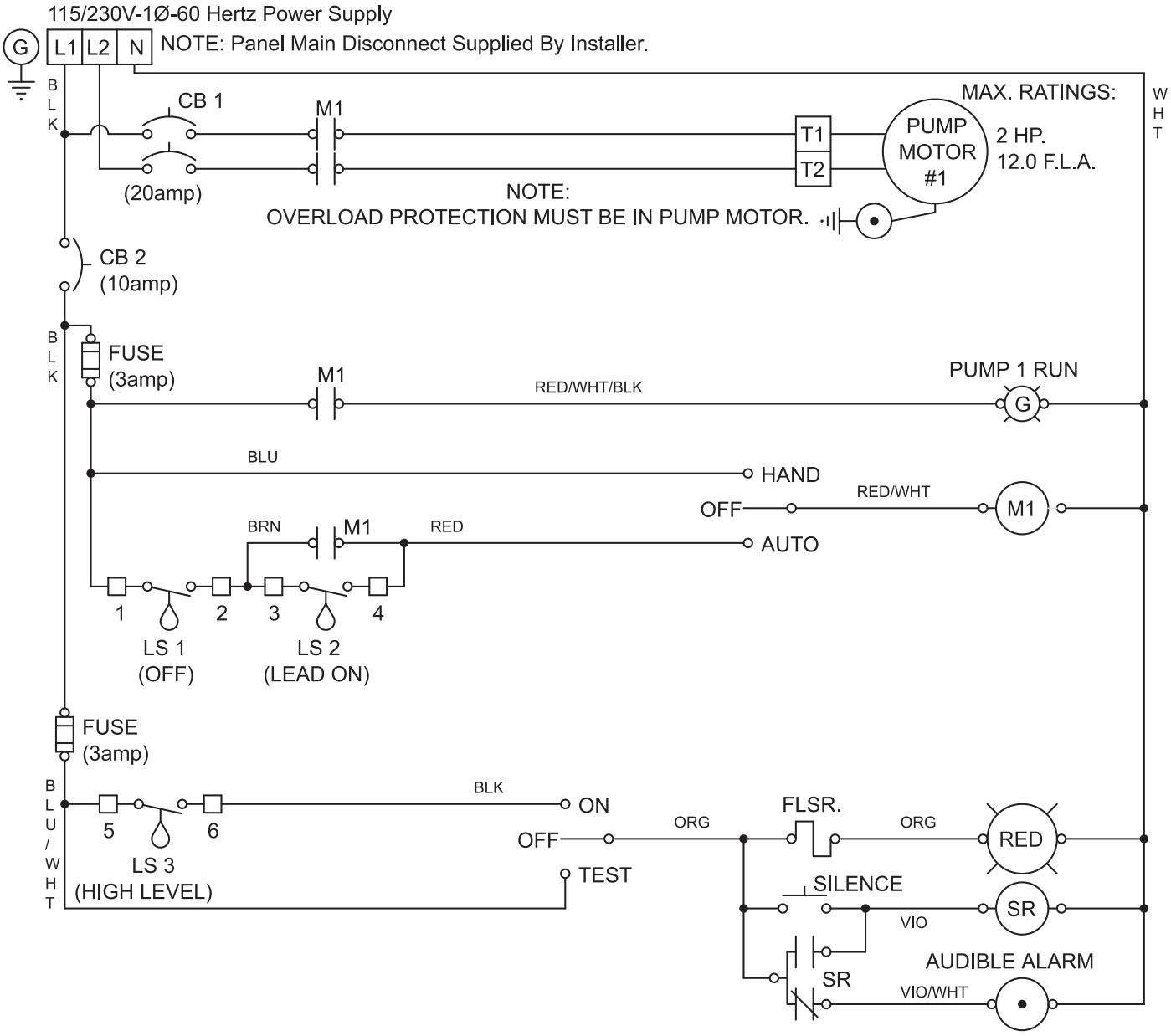
SPECIFICATIONS & ORDERING INFORMATION

Model Number Scheme - Example: PFC1000

PFC1000

- Voltage and Phase - (0= 115V) ● (1 = 200V, 1 Phase) ● (2 = 200V, 3 Phase) ● (3 = 230V, 1 Phase) ● (4 = 230V, 3 Phase) ● (5 = 460V, 3 Phase)
- Horsepower
- (1 = Simplex) ● (2 = Duplex)

Model#	Location Use	Max FLA	Enclosure Type	Enclosure Material	Input Power VAC	Phase	HP	Audible Included	Alarm Fuse	Control Fuse	Approx Ship Weight
PFC1001	Outdoor	12	NEMA 4X	Fiberglass	200	1	.5	Piezo	3 Amp	3 Amp	12 lbs.
PFC1003	Outdoor	12	NEMA 4X	Fiberglass	230	1	.5	Piezo	3 Amp	3 Amp	12 lbs.
PFC1011	Outdoor	12	NEMA 4X	Fiberglass	200	1	1	Piezo	3 Amp	3 Amp	12 lbs.
PFC1013	Outdoor	12	NEMA 4X	Fiberglass	230	1	1	Piezo	3 Amp	3 Amp	12 lbs.
PFC1021	Outdoor	12	NEMA 4X	Fiberglass	200	1	2	Piezo	3 Amp	3 Amp	12 lbs.
PFC1023	Outdoor	12	NEMA 4X	Fiberglass	230	1	2	Piezo	3 Amp	3 Amp	12 lbs.



POWER-FLO® CONTROL
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SINGLE PHASE DUPLEX 115V CONTROL

This Single Phase Duplex 115 VAC control panel can be used to start and stop pumps for sump & sewage basins, septic tank & aeration systems, cistern & atmospheric storage tanks, chemical solution tanks and many more applications.

FEATURES

- NEMA 4X fiberglass enclosure
- Flashing red alarm light
- Two amber run lights
- High decibel audible alarm (optional)
- Stainless piano hinged door
- Stainless door latches w/padlock hasp
- External mounting feet
- Two 3 pole, non-reversing contactors (2 HP max. - motors with on-winding overload protection)
- Two "Hand/Off/Auto" heavy duty toggles
- Alarm "On/Off/Test" heavy duty toggle
- Field wiring terminal strips
- Two motor circuit breakers
- Control circuit breaker
- Individual 3 amp control/alarm circuit fuses

OPTIONS

- Piezo Buzzer
- Alarm Bell
- Vibrating Horn
- UL 508A Listing

Note: Automatic reset silence circuit included with all audibles

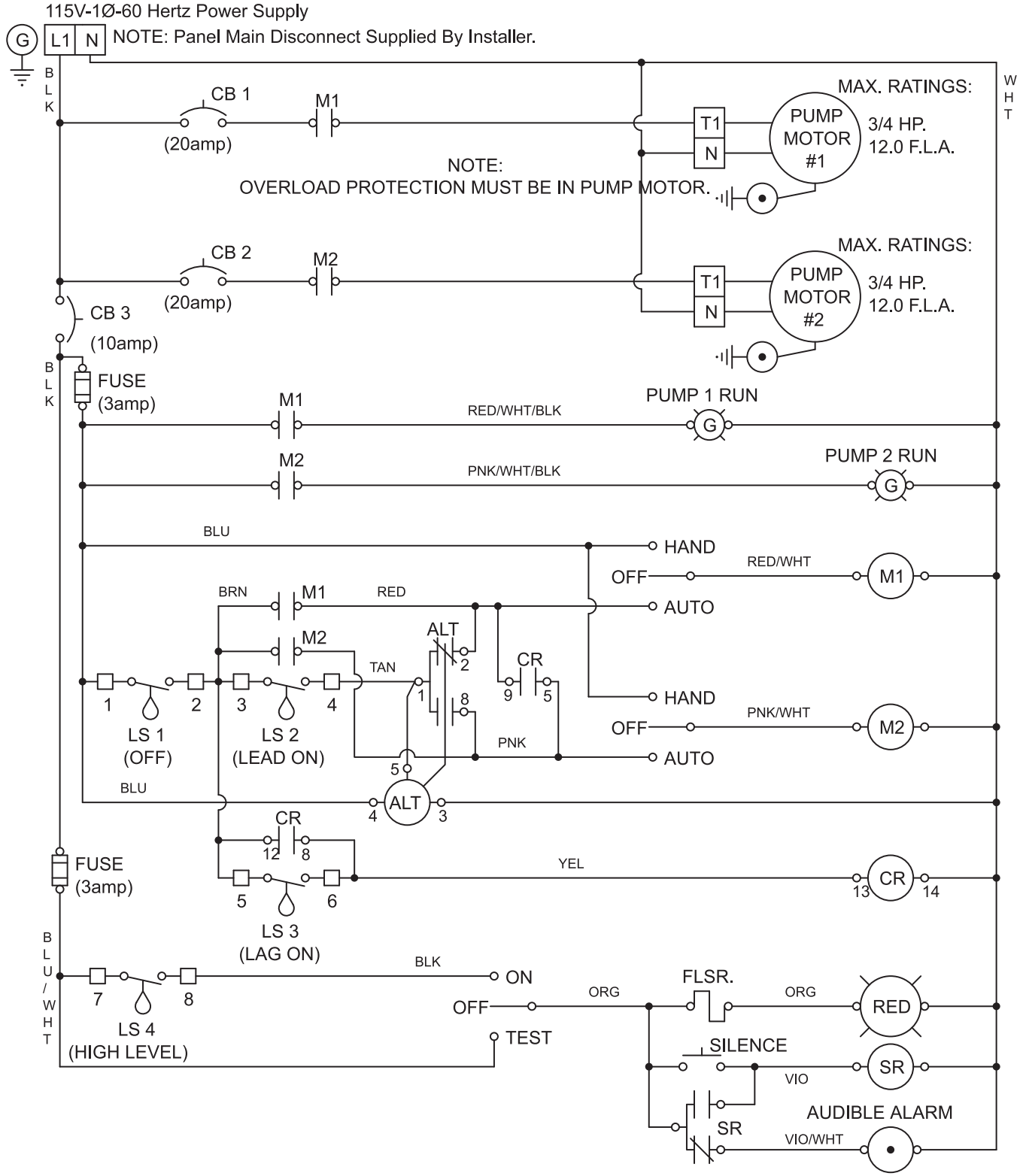
SPECIFICATIONS & ORDERING INFORMATION

Model Number Scheme - Example: PFC1000

PFC1000

- Voltage and Phase - (0= 115V) ● (1 = 200V, 1 Phase) ● (2 = 200V, 3 Phase) ● (3 = 230V, 1 Phase) ● (4 = 230V, 3 Phase) ● (5 = 460V, 3 Phase)
- Horsepower
- (1 = Simplex) ● (2 = Duplex)

Model#	Location Use	Max FLA	Enclosure Type	Enclosure Material	Input Power VAC	Phase	HP	Audible Included	Alarm Fuse	Control Fuse	Approx Ship Weight
PFC2000	Outdoor	12	NEMA 4X	Fiberglass	115	1	.5	Piezo	3 Amp	3 Amp	18 lbs.



POWER-FLO® CONTROL
PHONE: 877-696-5554
FAX: 863-314-9953
WWW.POWERFLOCONTROL.COM

SINGLE PHASE DUPLEX 230V CONTROL

This Single Phase Duplex 230 VAC control panel can be used to start and stop pumps for sump & sewage basins, septic tank & aeration systems, cistern & atmospheric storage tanks, chemical solution tanks and many more applications.

FEATURES

- NEMA 4X fiberglass enclosure
- Flashing red alarm light
- Two amber run lights
- High decibel audible alarm (optional)
- Stainless piano hinged door
- Stainless door latches w/padlock hasp
- External mounting feet
- Automatic alternating relay/override circuit
- Two 3 pole, non-reversing contactors (2 HP max. - motors with on-winding overload protection)
- Two "Hand/Off/Auto" heavy duty toggles
- Alarm "On/Off/Test" heavy duty toggle
- Field wiring terminal strips
- Two motor circuit breakers
- Control circuit breaker
- Individual 3 amp control/alarm circuit fuses

OPTIONS

- Piezo Buzzer
- Alarm Bell
- Vibrating Horn
- UL 508A Listing

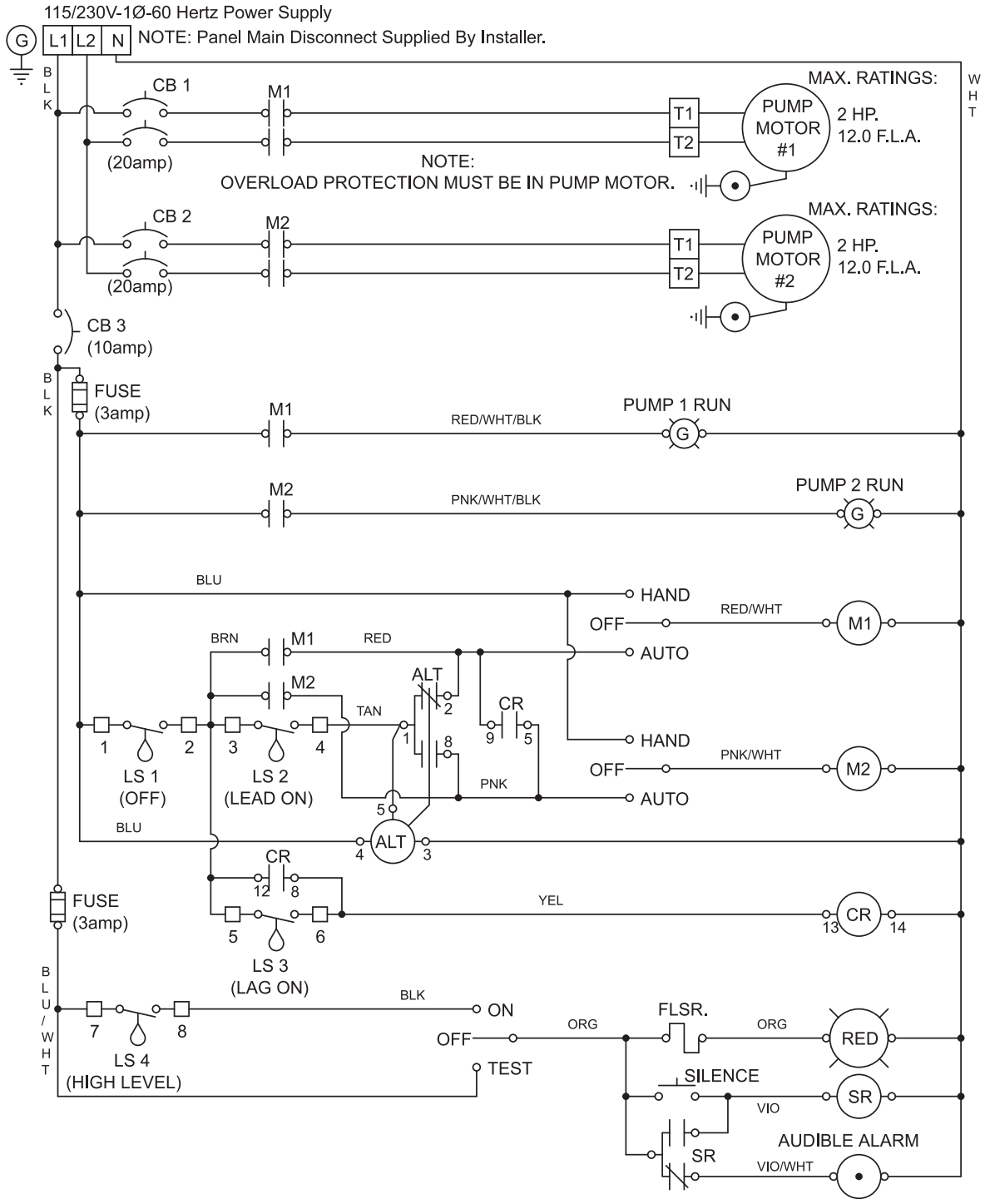
Note: Automatic reset silence circuit included with all audibles

SPECIFICATIONS & ORDERING INFORMATION

Model Number Scheme - Example: PFC1000

PFC1000
- Voltage and Phase - (0= 115V) ● (1 = 200V, 1 Phase) ● (2 = 200V, 3 Phase) ● (3 = 230V, 1 Phase) ● (4 = 230V, 3 Phase) ● (5 = 460V, 3 Phase)
- Horsepower
- (1 = Simplex) ● (2 = Duplex)

Model#	Location Use	Max FLA	Enclosure Type	Enclosure Material	Input Power VAC	Phase	HP	Audible Included	Alarm Fuse	Control Fuse	Approx Ship Weight
PFC2001	Outdoor	12	NEMA 4X	Fiberglass	200	1	.5	Piezo	3 Amp	3 Amp	20 lbs.
PFC2003	Outdoor	12	NEMA 4X	Fiberglass	230	1	.5	Piezo	3 Amp	3 Amp	20 lbs.
PFC2011	Outdoor	12	NEMA 4X	Fiberglass	200	1	1	Piezo	3 Amp	3 Amp	20 lbs.
PFC2013	Outdoor	12	NEMA 4X	Fiberglass	230	1	1	Piezo	3 Amp	3 Amp	20 lbs.
PFC2021	Outdoor	12	NEMA 4X	Fiberglass	200	1	2	Piezo	3 Amp	3 Amp	20 lbs.
PFC2023	Outdoor	12	NEMA 4X	Fiberglass	230	1	2	Piezo	3 Amp	3 Amp	20 lbs.



POWER-FLO® CONTROL
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WWW.POWERFLOCONTROL.COM

THREE PHASE SIMPLEX 208V CONTROL

This Three Phase Simplex 208 VAC control panel can be used to start and stop pumps for sump & sewage basins, septic tank & aeration systems, cistern & atmospheric storage tanks, chemical solution tanks and many more applications.

FEATURES

- NEMA 4X fiberglass enclosure
- Flashing red alarm light
- Amber run light
- High decibel audible alarm
- Stainless piano hinged door
- Stainless door latches w/padlock hasp
- External mounting feet
- 3 pole, non-reversing contactor
- Adjustable overload relay
- "Hand/Off/Auto" heavy duty toggle
- Alarm "On/Off/Test" heavy duty toggle
- Field wiring terminal strips
- Motor circuit breaker
- Control circuit transformer - primary fusing
- Individual 3 amp control/alarm circuit fuses

OPTIONS

- Piezo Buzzer
- Alarm Bell
- Vibrating Horn
- UL 508A Listing

Note: Automatic reset silence circuit included with all audibles

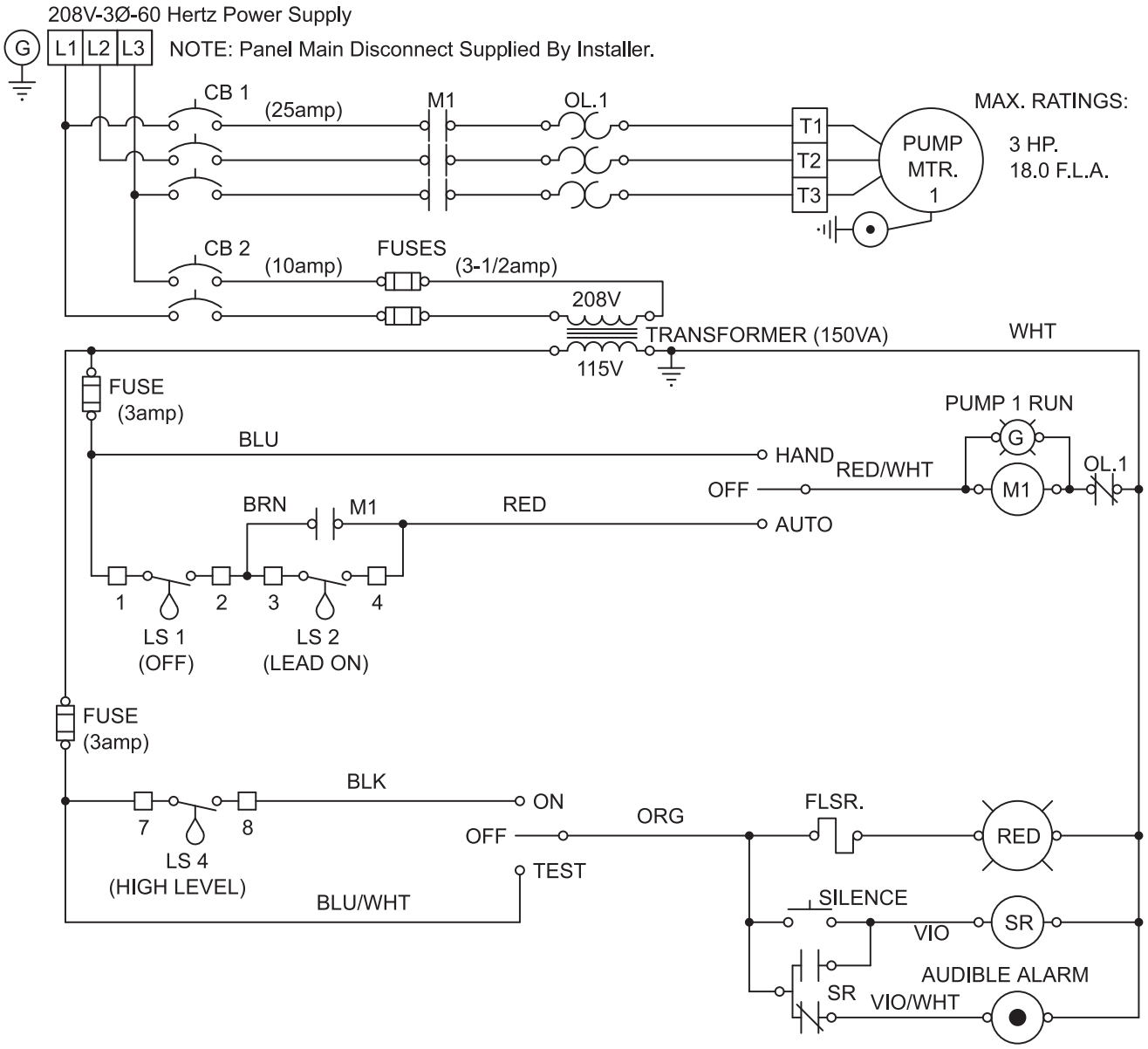
SPECIFICATIONS & ORDERING INFORMATION

Model Number Scheme - Example: PFC1000

PFC1000

- Voltage and Phase - (0= 115V) ● (1 = 200V, 1 Phase) ● (2 = 200V, 3 Phase) ● (3 = 230V, 1 Phase) ● (4 = 230V, 3 Phase) ● (5 = 460V, 3 Phase)
- Horsepower
- (1 = Simplex) ● (2 = Duplex)

Model#	Location Use	Max FLA	Enclosure Type	Enclosure Material	Input Power VAC	Phase	HP	Audible Included	Alarm Fuse	Control Fuse	Approx Ship Weight
PFC1002	Outdoor	18	NEMA 4X	Fiberglass	200	3	.5	Piezo	3 Amp	3 Amp	13 lbs.
PFC1012	Outdoor	18	NEMA 4X	Fiberglass	200	3	1	Piezo	3 Amp	3 Amp	13 lbs.
PFC1022	Outdoor	18	NEMA 4X	Fiberglass	200	3	2	Piezo	3 Amp	3 Amp	13 lbs.



POWER-FLO® CONTROL
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THREE PHASE SIMPLEX 230V CONTROL

This Three Phase Simplex 230 VAC control panel can be used to start and stop pumps for sump & sewage basins, septic tank & aeration systems, cistern & atmospheric storage tanks, chemical solution tanks and many more applications.

FEATURES

- NEMA 4X fiberglass enclosure
- Flashing red alarm light
- Amber run light
- High decibel audible alarm
- Stainless piano hinged door
- Stainless door latches w/padlock hasp
- External mounting feet
- 3 pole, non-reversing contactor
- Adjustable overload relay
- "Hand/Off/Auto" heavy duty toggle
- Alarm "On/Off/Test" heavy duty toggle
- Field wiring terminal strips
- Motor circuit breaker
- Control circuit transformer - primary fusing
- Individual 3 amp control/alarm circuit fuses

OPTIONS

- Piezo Buzzer
- Alarm Bell
- Vibrating Horn
- UL 508A Listing

Note: Automatic reset silence circuit included with all audibles

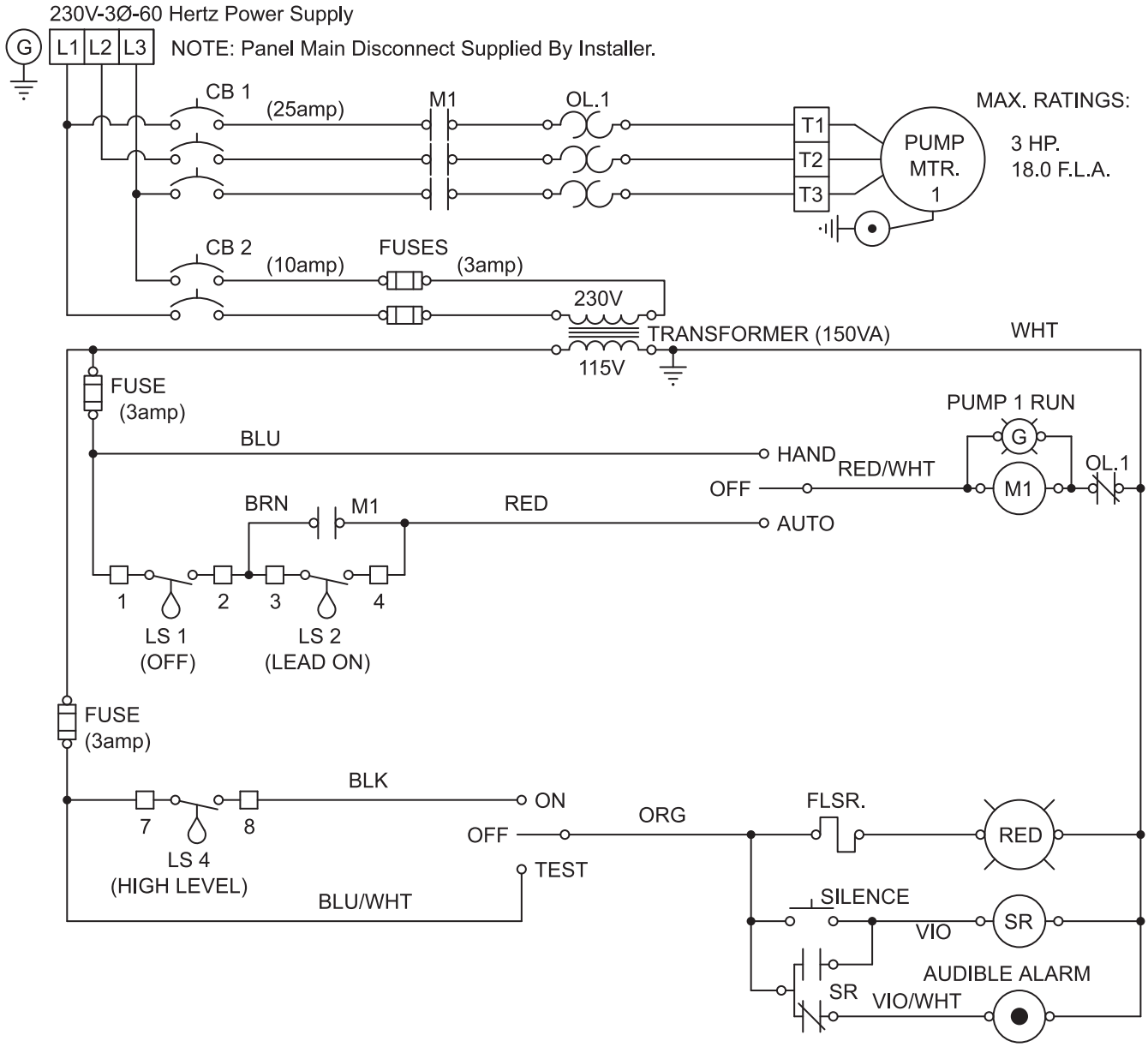
SPECIFICATIONS & ORDERING INFORMATION

Model Number Scheme - Example: PFC1000

PFC1000

- Voltage and Phase - (0= 115V) ● (1 = 200V, 1 Phase) ● (2 = 200V, 3 Phase) ● (3 = 230V, 1 Phase) ● (4 = 230V, 3 Phase) ● (5 = 460V, 3 Phase)
- Horsepower
- (1 = Simplex) ● (2 = Duplex)

Model#	Location Use	Max FLA	Enclosure Type	Enclosure Material	Input Power VAC	Phase	HP	Audible Included	Alarm Fuse	Control Fuse	Approx Ship Weight
PFC1014	Outdoor	18	NEMA 4X	Fiberglass	230	3	1	Piezo	3 Amp	3 Amp	13 lbs.
PFC1024	Outdoor	18	NEMA 4X	Fiberglass	230	3	2	Piezo	3 Amp	3 Amp	13 lbs.



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THREE PHASE SIMPLEX 460V CONTROL

This Three Phase Simplex 460 VAC control panel can be used to start and stop pumps for sump & sewage basins, septic tank & aeration systems, cistern & atmospheric storage tanks, chemical solution tanks and many more applications.

FEATURES

- NEMA 4X fiberglass enclosure
- Flashing red alarm light
- Amber run light
- High decibel audible alarm (optional)
- Stainless piano hinged door
- Stainless door latches w/padlock hasp
- External mounting feet
- 3 pole, non-reversing contactor
- "Hand/Off/Auto" heavy duty toggle
- Alarm "On/Off/Test" heavy duty toggle
- Field wiring terminal strips
- Motor circuit breaker
- Control circuit breaker
- Individual 3 amp control/alarm circuit fuses

OPTIONS

- Piezo Buzzer
- Alarm Bell
- Vibrating Horn
- UL 508A Listing

Note: Automatic reset silence circuit included with all audibles

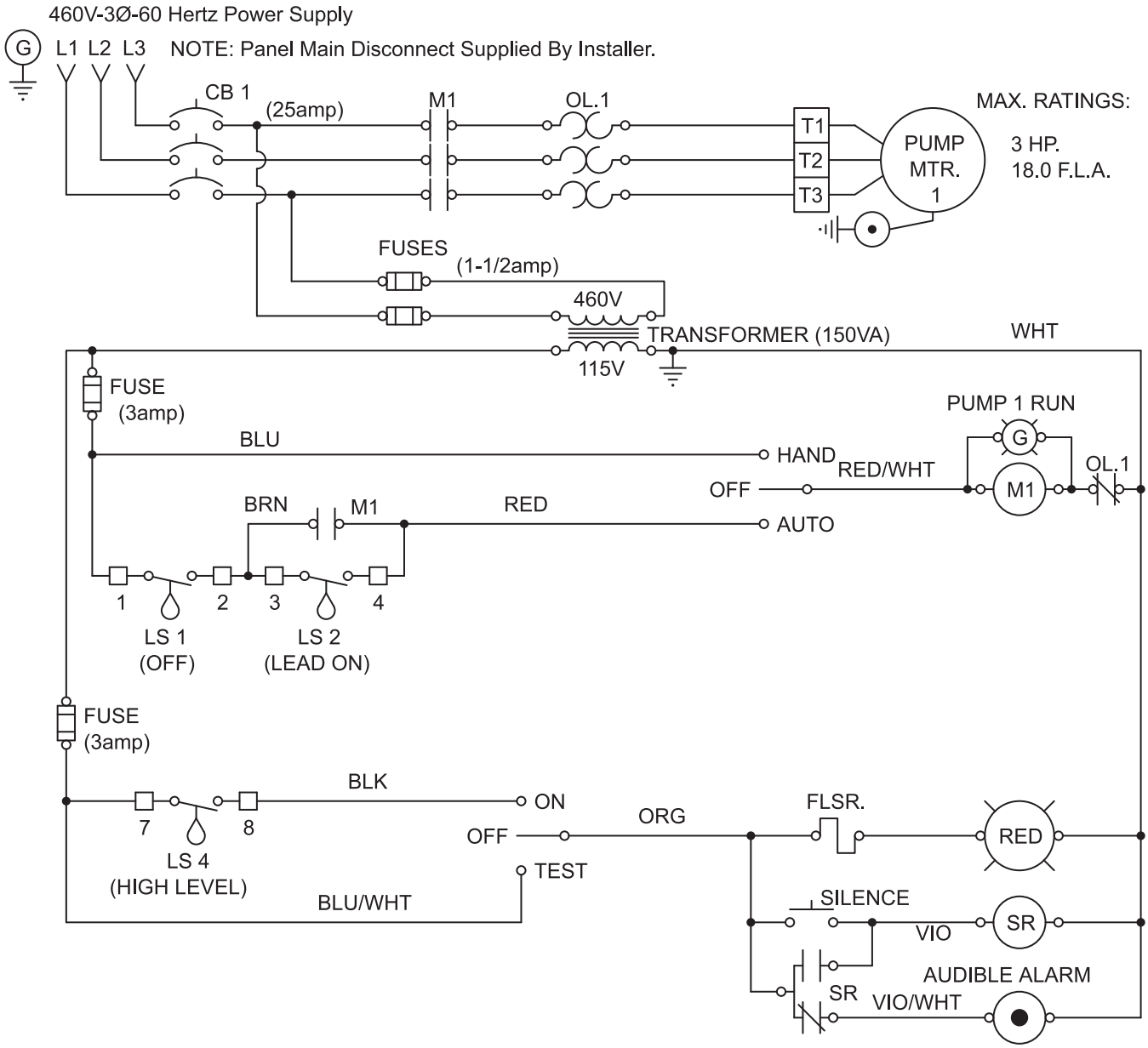
SPECIFICATIONS & ORDERING INFORMATION

Model Number Scheme - Example: PFC1000

PFC1000

- Voltage and Phase - (0= 115V) ● (1 = 200V, 1 Phase) ● (2 = 200V, 3 Phase) ● (3 = 230V, 1 Phase) ● (4 = 230V, 3 Phase) ● (5 = 460V, 3 Phase)
- Horsepower
- (1 = Simplex) ● (2 = Duplex)

Model#	Location Use	Max FLA	Enclosure Type	Enclosure Material	Input Power VAC	Phase	HP	Audible Included	Alarm Fuse	Control Fuse	Approx Ship Weight
PFC1005	Outdoor	18	NEMA 4X	Fiberglass	460	3	.5	Piezo	3 Amp	3 Amp	15 lbs.
PFC1015	Outdoor	18	NEMA 4X	Fiberglass	460	3	1	Piezo	3 Amp	3 Amp	15 lbs.
PFC1025	Outdoor	18	NEMA 4X	Fiberglass	460	3	2	Piezo	3 Amp	3 Amp	15 lbs.


460V-3Ø-60 Hertz Power Supply
G
L1 L2 L3
NOTE: Panel Main Disconnect Supplied By Installer.
CB 1
(25amp)
M1
OL.1
T1
T2
T3
PUMP MTR. 1
MAX. RATINGS:
3 HP.
18.0 F.L.A.
FUSES
(1-1/2amp)
460V
TRANSFORMER (150VA)
115V
WHT
FUSE
(3amp)
PUMP 1 RUN
BLU
HAND
RED/WHT
OFF
OL.1
BRN
M1
RED
AUTO
1
2
3
4
LS 1
(OFF)
LS 2
(LEAD ON)
FUSE
(3amp)
BLK
ON
ORG
FLSR.
7
8
OFF
TEST
LS 4
(HIGH LEVEL)
BLU/WHT
SILENCE
VIO
SR
AUDIBLE ALARM
SR
VIO/WHT

SINGLE PHASE SIMPLEX 230V CONTROL with START CAPACITOR

This Single Phase Simplex 230 VAC control panel with start capacitor can be used with grinder and non-clog pumps for residential, commerical, industrial applications. It can also be used in lift stations, sewage basins & tanks, pressure sewer systems and many more applications.

FEATURES

- NEMA 4X fiberglass enclosure
- Flashing red alarm light
- Amber run light
- High decibel audible alarm
- Stainless piano hinged door
- Stainless door latches w/padlock hasp
- External mounting feet
- 3 pole, non-reversing contactor
- Adjustable overload relay
- Motor heat sensor connection
- Motor seal fail circuit
- "Hand/Off/Auto" heavy duty toggle
- Field wiring terminal strips
- Motor circuit breaker
- Control circuit transformer
- Individual 3 amp control/alarm circuit fuses

OPTIONS

- Piezo Buzzer
- Alarm Bell
- Vibrating Horn
- UL 508A Listing

Note: Automatic reset silence circuit included with all audibles

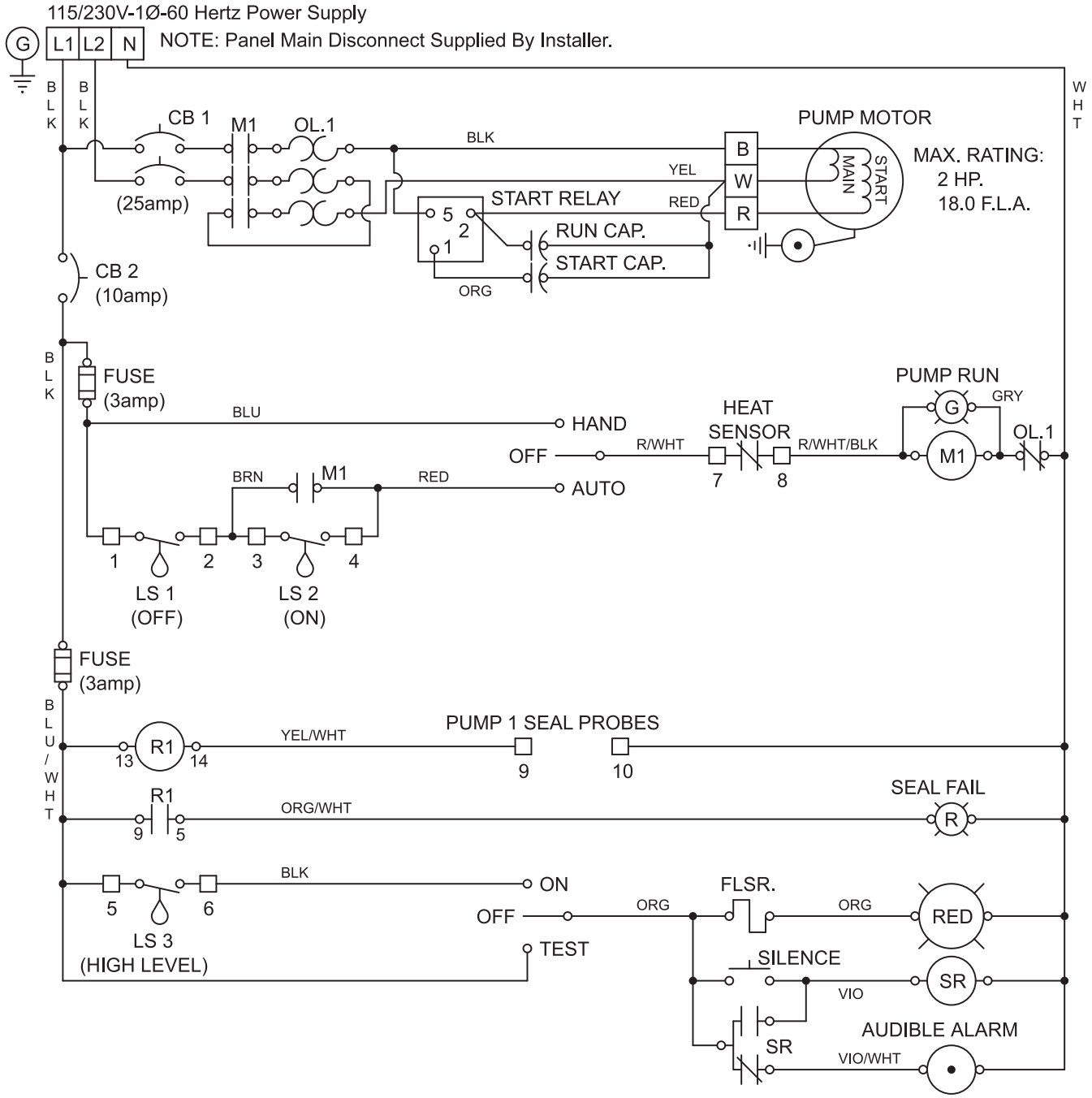
SPECIFICATIONS & ORDERING INFORMATION

Model Number Scheme - Example: PFC1000

PFC1000

- Voltage and Phase - (0= 115V) ● (1 = 200V, 1 Phase) ● (2 = 200V, 3 Phase) ● (3 = 230V, 1 Phase) ● (4 = 230V, 3 Phase) ● (5 = 460V, 3 Phase)
- Horsepower
- (1 = Simplex) ● (2 = Duplex)

Model#	Location Use	Max FLA	Enclosure Type	Enclosure Material	Input Power VAC	Phase	HP	Audible Included	Alarm Fuse	Control Fuse	Approx Ship Weight
PFC1021-C	Outdoor	12	NEMA 4X	Fiberglass	200	1	2	Piezo	3 Amp	3 Amp	26 lbs.
PFC1023-C	Outdoor	12	NEMA 4X	Fiberglass	230	1	2	Piezo	3 Amp	3 Amp	26 lbs.



POWER-FLO® CONTROL
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THREE PHASE DUPLEX 208V CONTROL

This Three Phase Duplex 208 VAC control panel can be used to start and stop pumps for sump & sewage basins, septic tank & aeration systems, cistern & atmospheric storage tanks, chemical solution tanks and many more applications.

FEATURES

- NEMA 4X fiberglass enclosure
- Flashing red alarm light
- Two amber run lights
- High decibel audible alarm
- Stainless piano hinged door
- Stainless door latches w/padlock hasp
- External mounting feet
- Automatic alternating relay/override circuit
- Two 3 pole, non-reversing contactors
- Two adjustable overload relays
- Two "Hand/Off/Auto" heavy duty toggles
- Alarm "On/Off/Test" heavy duty toggle
- Field wiring terminal strips
- Two motor circuit breakers
- Control circuit transformer - primary fusing & breaker
- Individual 3 amp control/alarm circuit fuses

OPTIONS

- Piezo Buzzer
- Alarm Bell
- Vibrating Horn
- UL 508A Listing

Note: Automatic reset silence circuit included with all audibles

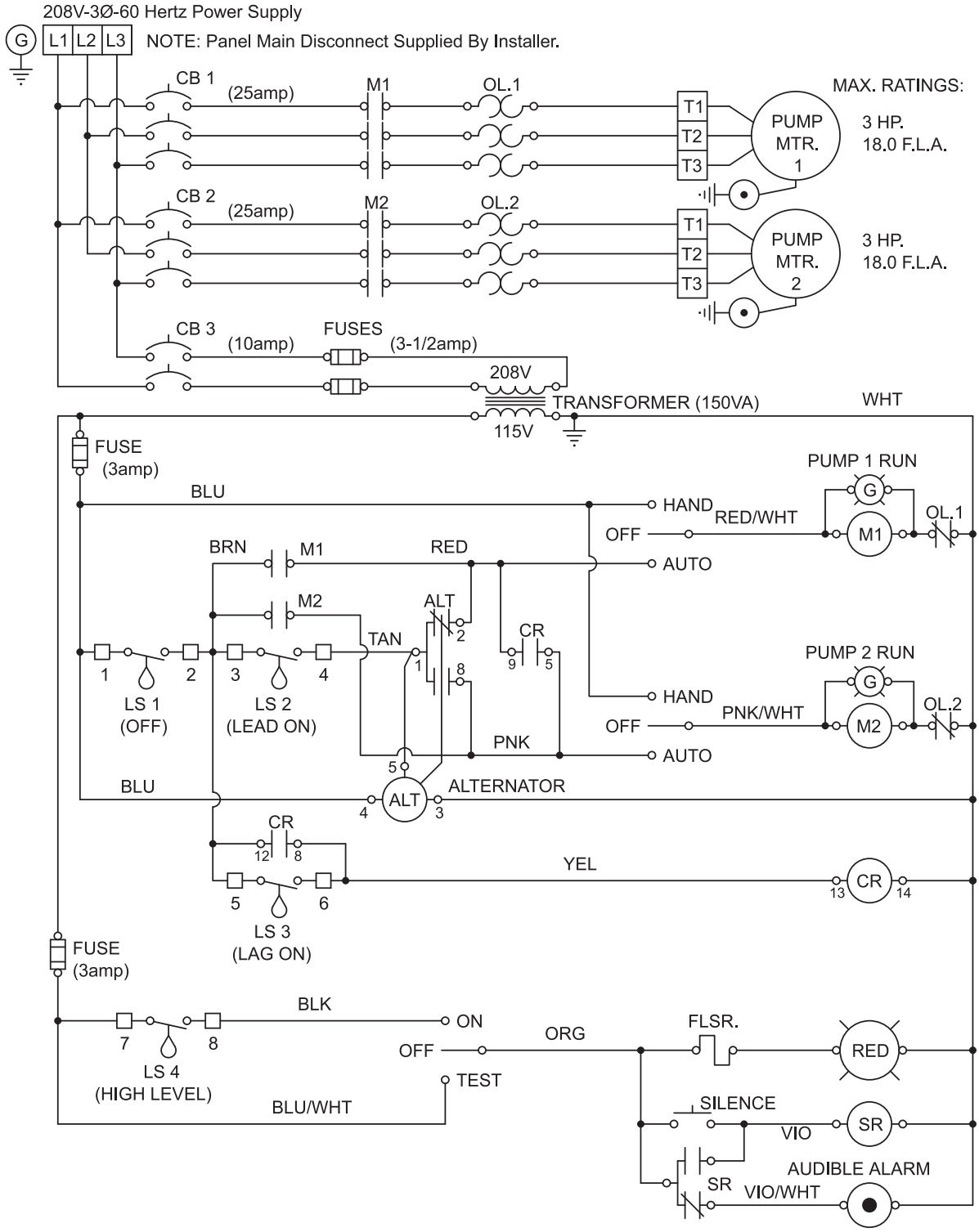
SPECIFICATIONS & ORDERING INFORMATION

Model Number Scheme - Example: PFC1000

PFC1000

- Voltage and Phase - (0= 115V) ● (1 = 200V, 1 Phase) ● (2 = 200V, 3 Phase) ● (3 = 230V, 1 Phase) ● (4 = 230V, 3 Phase) ● (5 = 460V, 3 Phase)
- Horsepower
- (1 = Simplex) ● (2 = Duplex)

Model#	Location Use	Max FLA	Enclosure Type	Enclosure Material	Input Power VAC	Phase	HP	Audible Included	Alarm Fuse	Control Fuse	Approx Ship Weight
PFC2002	Outdoor	18	NEMA 4X	Fiberglass	200	3	.5	Piezo	3 Amp	3 Amp	20 lbs.
PFC2012	Outdoor	18	NEMA 4X	Fiberglass	200	3	1	Piezo	3 Amp	3 Amp	20 lbs.
PFC2022	Outdoor	18	NEMA 4X	Fiberglass	200	3	2	Piezo	3 Amp	3 Amp	20 lbs.



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THREE PHASE DUPLEX 230V CONTROL

This Three Phase Duplex 230 VAC control panel can be used to start and stop pumps for sump & sewage basins, septic tank & aeration systems, cistern & atmospheric storage tanks, chemical solution tanks and many more applications.

FEATURES

- NEMA 4X fiberglass enclosure
- Flashing red alarm light
- Two amber run lights
- High decibel audible alarm
- Stainless piano hinged door
- Stainless door latches w/padlock hasp
- External mounting feet
- Automatic alternating relay/override circuit
- Two 3 pole, non-reversing contactors
- Two adjustable overload relays
- Two "Hand/Off/Auto" heavy duty toggles
- Alarm "On/Off/Test" heavy duty toggle
- Field wiring terminal strips
- Two motor circuit breakers
- Control circuit transformer - primary fusing & breaker
- Individual 3 amp control/alarm circuit fuses

OPTIONS

- Piezo Buzzer
- Alarm Bell
- Vibrating Horn
- UL 508A Listing

Note: Automatic reset silence circuit included with all audibles

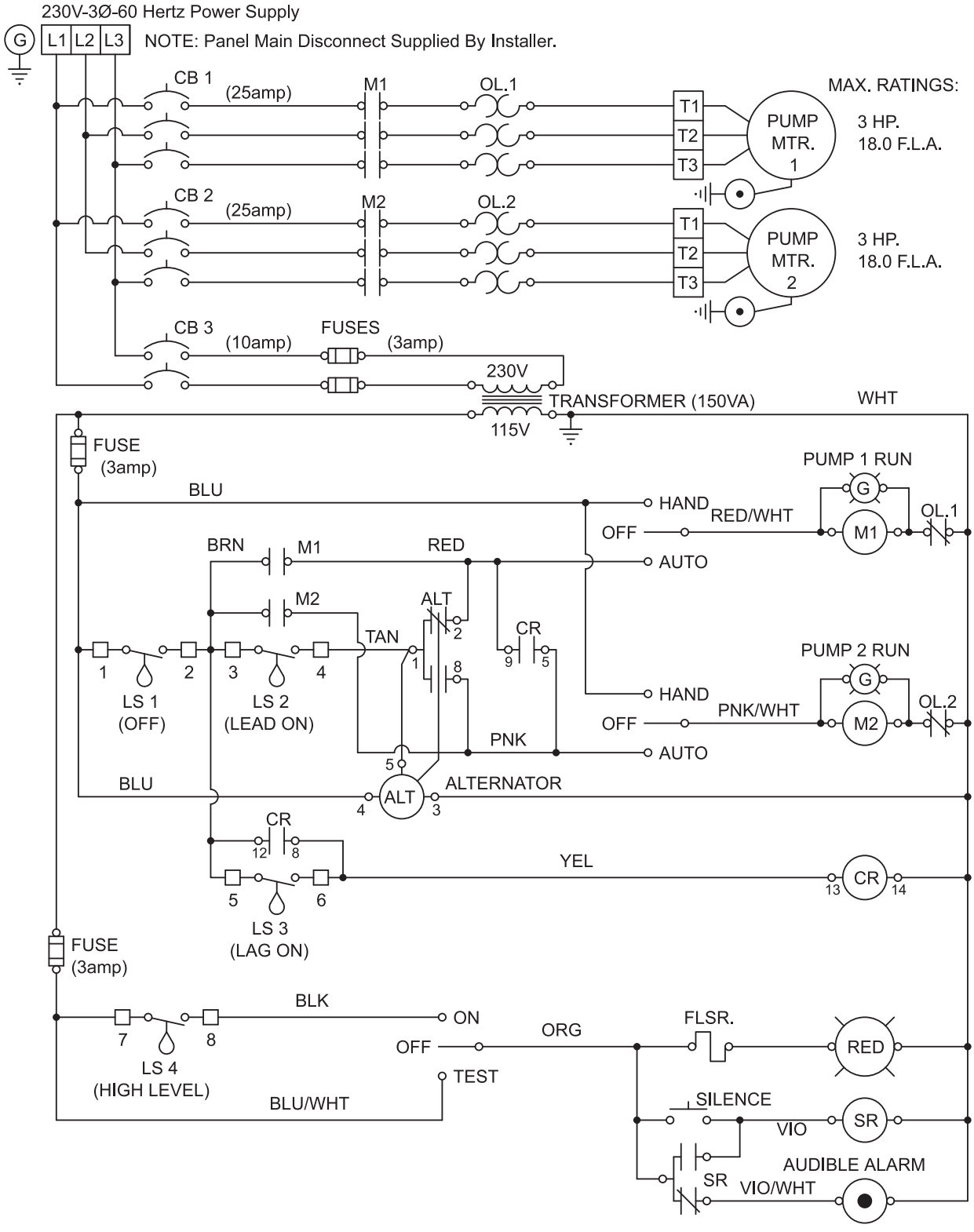
SPECIFICATIONS & ORDERING INFORMATION

Model Number Scheme - Example: PFC1000

PFC1000

- Voltage and Phase - (0= 115V) ● (1 = 200V, 1 Phase) ● (2 = 200V, 3 Phase) ● (3 = 230V, 1 Phase) ● (4 = 230V, 3 Phase) ● (5 = 460V, 3 Phase)
- Horsepower
- (1 = Simplex) ● (2 = Duplex)

Model#	Location Use	Max FLA	Enclosure Type	Enclosure Material	Input Power VAC	Phase	HP	Audible Included	Alarm Fuse	Control Fuse	Approx Ship Weight
PFC2014	Outdoor	18	NEMA 4X	Fiberglass	230	3	1	Piezo	3 Amp	3 Amp	21 lbs.
PFC2024	Outdoor	18	NEMA 4X	Fiberglass	230	3	2	Piezo	3 Amp	3 Amp	21 lbs.


230V-3Ø-60 Hertz Power Supply
G
L1 L2 L3
NOTE: Panel Main Disconnect Supplied By Installer.
CB 1
(25amp)
M1
OL.1
T1
T2
T3
PUMP MTR. 1
MAX. RATINGS:
3 HP.
18.0 F.L.A.
CB 2
(25amp)
M2
OL.2
PUMP MTR. 2
3 HP.
18.0 F.L.A.
CB 3
(10amp)
FUSES
(3amp)
230V
TRANSFORMER (150VA)
115V
WHT
FUSE
(3amp)
BLU
PUMP 1 RUN
HAND
OFF
AUTO
RED/WHT
OL.1
BRN
RED
M2
ALT
TAN
CR
PUMP 2 RUN
PNK/WHT
OL.2
PNK
LS 1
(OFF)
LS 2
(LEAD ON)
ALTERNATOR
YEL
LS 3
(LAG ON)
BLK
ON
OFF
TEST
ORG
FLSR.
RED
LS 4
(HIGH LEVEL)
BLU/WHT
SILENCE
VIO
SR
AUDIBLE ALARM
VIO/WHT

THREE PHASE DUPLEX 460V CONTROL

This Three Phase Duplex 460 VAC control panel can be used to start and stop pumps for sump & sewage basins, septic tank & aeration systems, cistern & atmospheric storage tanks, chemical solution tanks and many more applications.

FEATURES

- NEMA 4X fiberglass enclosure
- Flashing red alarm light
- Two amber run lights
- High decibel audible alarm (optional)
- Stainless piano hinged door
- Stainless door latches w/padlock hasp
- External mounting feet
- Automatic alternating relay/override circuit
- Two 3 pole, non-reversing contactors
- Two adjustable overload relays
- Two "Hand/Off/Auto" heavy duty toggles
- Alarm "On/Off/Test" heavy duty toggle
- Field wiring terminal strips
- Two motor circuit breakers
- Control circuit transformer - primary fusing
- Individual 3 amp control/alarm circuit fuses

OPTIONS

- Piezo Buzzer
- Alarm Bell
- Vibrating Horn
- UL 508A Listing

Note: Automatic reset silence circuit included with all audibles

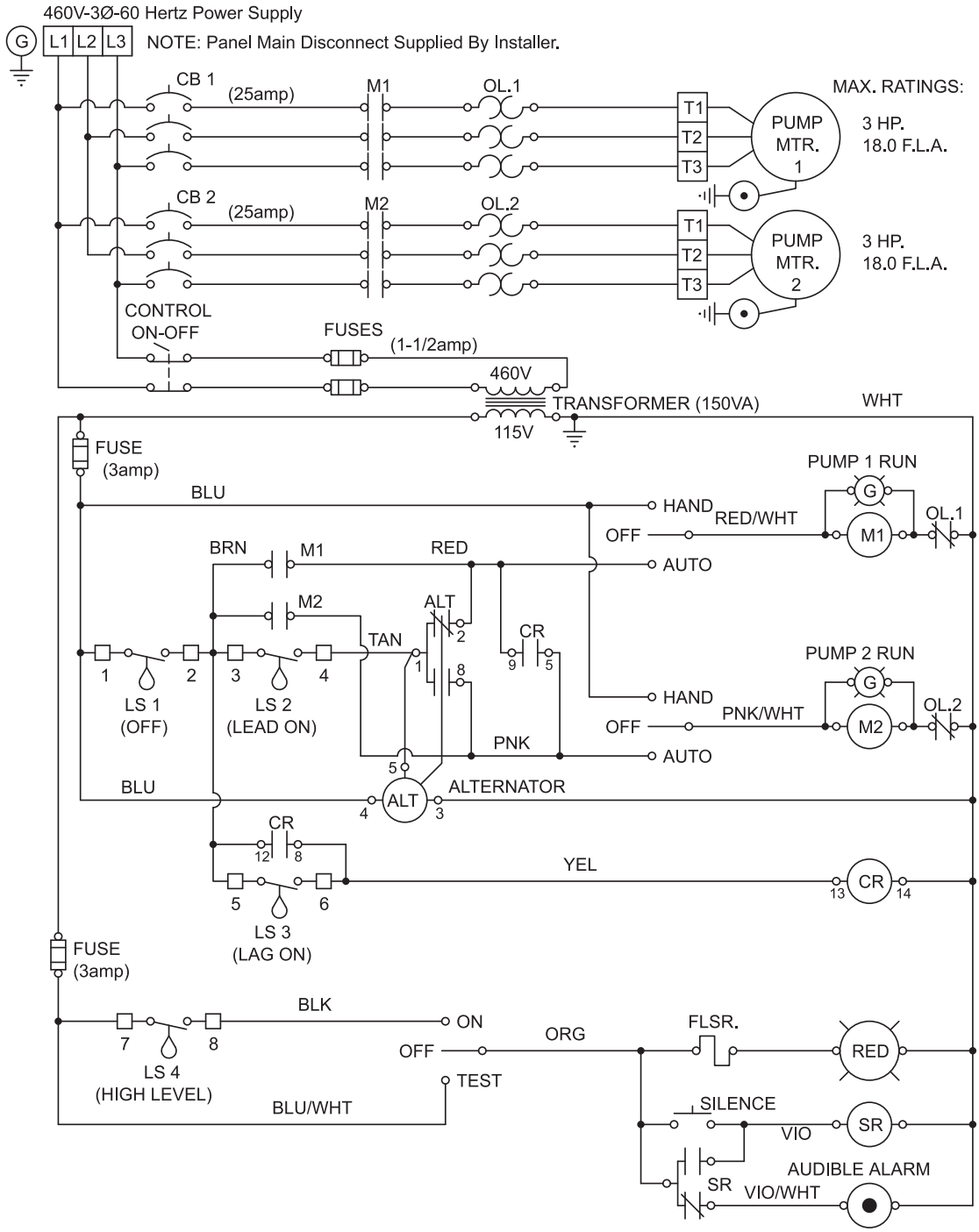
SPECIFICATIONS & ORDERING INFORMATION

Model Number Scheme - Example: PFC1000

PFC1000

- Voltage and Phase - (0= 115V) ● (1 = 200V, 1 Phase) ● (2 = 200V, 3 Phase) ● (3 = 230V, 1 Phase) ● (4 = 230V, 3 Phase) ● (5 = 460V, 3 Phase)
- Horsepower
- (1 = Simplex) ● (2 = Duplex)

Model#	Location Use	Max FLA	Enclosure Type	Enclosure Material	Input Power VAC	Phase	HP	Audible Included	Alarm Fuse	Control Fuse	Approx Ship Weight
PFC2015	Outdoor	18	NEMA 4X	Fiberglass	460	3	1	Piezo	3 Amp	3 Amp	38 lbs.
PFC2025	Outdoor	18	NEMA 4X	Fiberglass	460	3	2	Piezo	3 Amp	3 Amp	38 lbs.



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SINGLE PHASE DUPLEX 230V CONTROL with START CAPACITOR

This Single Phase Duplex 230 VAC control panel with start capacitor can be used with grinder and non-clog pumps for residential, commerical, industrial applications. It can also be used in lift stations, sewage basins & tanks, pressure sewer systems and many more applications.

FEATURES

- NEMA 4X fiberglass enclosure
- Flashing red alarm light
- Two amber run lights
- High decibel audible alarm
- Stainless piano hinged door
- Stainless door latches w/padlock hasp
- External mounting feet
- Automatic alternating relay/override circuit
- 3 pole, non-reversing contactor
- Two adjustable overload relays
- Two motor heat sensor connections
- Two motor seal fail circuits
- Two "Hand/Off/Auto" heavy duty toggles
- Alarm "On/Off/Test" heavy duty toggle
- Field wiring terminal strips
- Two motor circuit breakers
- Control circuit transformer
- Individual 3 amp control/alarm circuit fuses

OPTIONS

- Piezo Buzzer
- Alarm Bell
- Vibrating Horn
- UL 508A Listing

Note: Automatic reset silence circuit included with all audibles

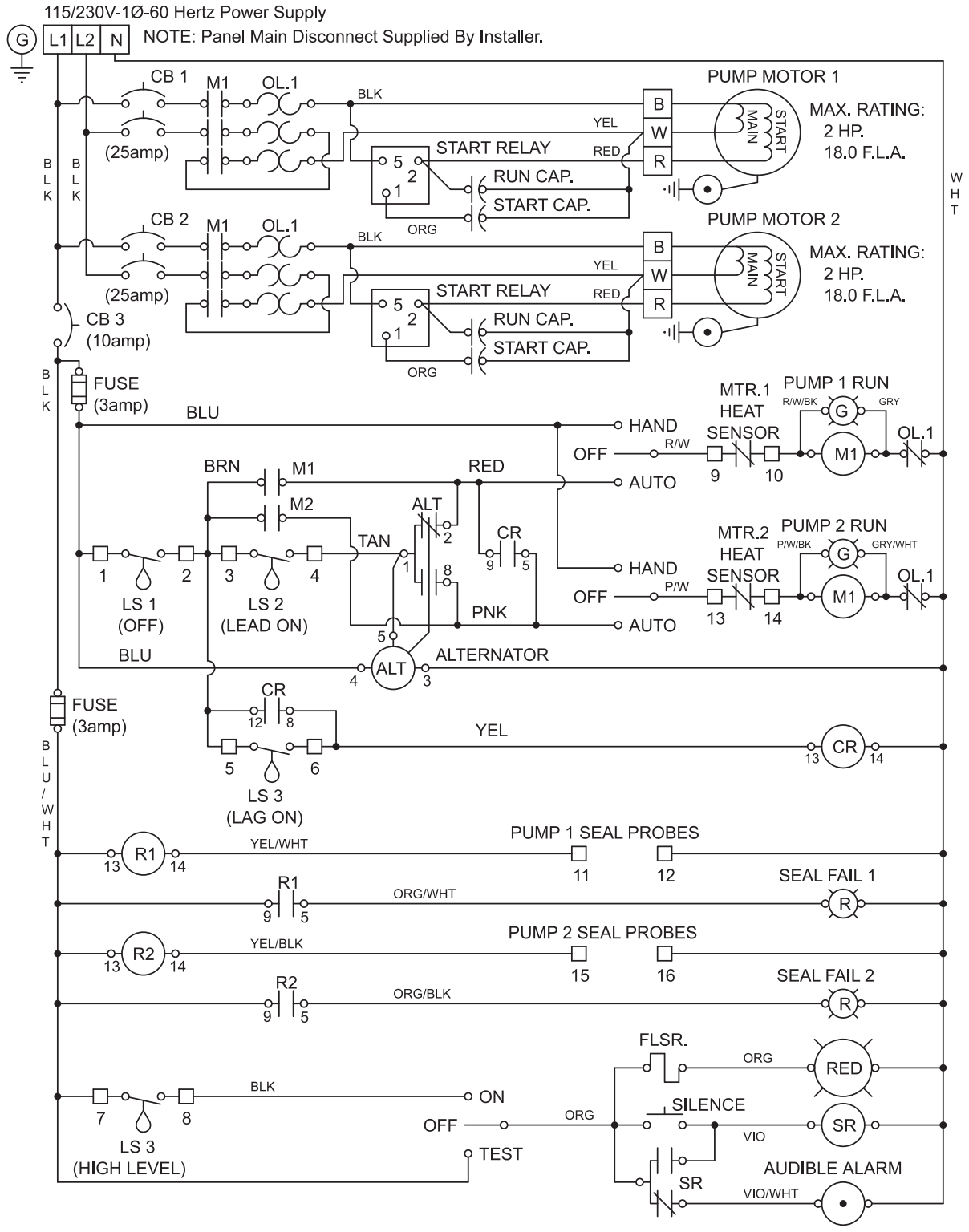
SPECIFICATIONS & ORDERING INFORMATION

Model Number Scheme - Example: PFC1000

PFC1000

- Voltage and Phase - (0= 115V) ● (1 = 200V, 1 Phase) ● (2 = 200V, 3 Phase) ● (3 = 230V, 1 Phase) ● (4 = 230V, 3 Phase) ● (5 = 460V, 3 Phase)
- Horsepower
- (1 = Simplex) ● (2 = Duplex)

Model#	Location Use	Max FLA	Enclosure Type	Enclosure Material	Input Power VAC	Phase	HP	Audible Included	Alarm Fuse	Control Fuse	Approx Ship Weight
PFC2021-C	Outdoor	12	NEMA 4X	Fiberglass	200	1	2	Piezo	3 Amp	3 Amp	38 lbs.
PFC2023-C	Outdoor	12	NEMA 4X	Fiberglass	230	1	2	Piezo	3 Amp	3 Amp	38 lbs.



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POWER-FLO® CONTROL

WIDE ANGLE MECHANICAL PUMP SWITCH

This mechanically-activated, wide-angle pump switch provides automatic control of pumps up to 1/2 HP at 120 VAC and 1 HP at 230 VAC in potable water, water and sewage applications. This pump switch is not sensitive to rotation or turbulence allowing it to be used in both calm and turbulent applications.

FEATURES

- Passed NSF Standard 61 protocol by an approved Water Quality Association laboratory.
- Mechanically-activated, snap action contacts.
- Controls pumps up to 1/2 HP at 120 VAC and 1 HP at 230 VAC.
- High impact, corrosion resistant, polypropylene float housing.
- Adjustable pump range of 8 to 36 inches (20 to 91 cm).
- UL Recognized for use in water and sewage.
- CSA Certified.

LR54245

Member WATER QUALITY ASSOCIATION

OPTIONS

This switch is available with:

- for pump down or pump applications applications as specified by part number.
- with a 125 VAC or 250 VAC piggy back plug
- without a plug for direct wiring in 125 VAC or 250 VAC applications.
- available in several cable lengths.

SPECIFICATIONS

CABLE: flexible 16 gauge, 2 conductor (UL, CSA) SJOW, water-resistant, (CPE)

FLOAT: 2.74 inch diameter x 4.83 inch long (7.0 cm x 12.3 cm), high impact, corrosion resistant, polypropylene housing for use in water up to 140°F (60°C)

MAXIMUM WATER DEPTH: 33 feet (10 meters) or 13 psi (90 kPa)

ELECTRICAL:

125 VAC 50/60Hz Single Phase:
Maximum Pump Run Current:
13 amps
Maximum Pump Starting Current:
78 amps

250 VAC 50/60Hz Single Phase:
Maximum Pump Run Current:
13 amps
Maximum Pump Starting Current:
78 amps

NOTE: This switch is not recommended for controlling:

- electric loads less than 100 milliamps, 12 VAC
- non-arcing electric loads

NOTE: This switch must be used with pumps that provide integral thermal overload protection.

ORDERING INFORMATION

With Plug PART#	DESCRIPTION	SHIPPING WEIGHT
PF15MMPD1WPWS	15FT WIDE ANGLE PUMP DOWN - 125V PLUG	1.81 lbs.
PF15MMPD2WPWS	15FT WIDE ANGLE PUMP DOWN - 250V PLUG	1.85 lbs.
PF20MMPD1WPWS	20FT WIDE ANGLE PUMP DOWN - 125V PLUG	2.14 lbs.
PF20MMPD2WPWS	20FT WIDE ANGLE PUMP DOWN - 250V PLUG	2.19 lbs.

Without Plug PART#	DESCRIPTION	SHIPPING WEIGHT
PF15MMPDWOPWS	15FT WIDE ANGLE PUMP DOWN W/OUT PLUG	1.37 lbs.
PF20MMPDWOPWS	20FT WIDE ANGLE PUMP DOWN W/OUT PLUG	1.69 lbs.
PF30MMPDWOPWS	30FT WIDE ANGLE PUMP DOWN W/OUT PLUG	2.34 lbs.
PF50MMPDWOPWS	50FT WIDE ANGLE PUMP DOWN W/OUT PLUG	3.64 lbs.
PF15MMPUWOPWS	15FT WIDE ANGLE PUMP UP W/OUT PLUG	1.37 lbs.
PF20MMPUWOPWS	20FT WIDE ANGLE PUMP UP W/OUT PLUG	1.69 lbs.
PF25MMPUWOPWS	25FT WIDE ANGLE PUMP UP W/OUT PLUG	2.01 lbs.

D = Pump **D**own **U** = Pump **U**p
1 = **125** VAC **2** = **250** VAC
WP = **W**ith **P**lug **WOP** = **W**ith **O**ut **P**lug

LR54245

OTHER INFORMATION

PUMP DOWN is normally open contacts for emptying in potable water, water or sewage applications.

PUMP UP is normally closed contacts for filling in potable water, water or sewage applications.

DIRECT WIRING
Units used for direct wiring (without plug) may be used in 125 VAC or 250 VAC applications within specified amp ratings.

POWER-FLO® CONTROL
PHONE: 877-696-5554
FAX: 863-314-9953
WWW.POWERFLOCONTROL.COM

POWER-FLO® CONTROL

WIDE ANGLE MECHANICAL PUMP SWITCH

This mechanically-activated, wide-angle pump switch provides automatic control of pumps up to 3/4 HP at 120 VAC and 2 HP at 230 VAC in potable water, water and sewage applications. This pump switch is not sensitive to rotation or turbulence allowing it to be used in both calm and turbulent applications.

FEATURES

- Passed NSF Standard 61 protocol by an approved Water Quality Association laboratory.
- Mechanically-activated, snap action contacts.
- Controls pumps up to 3/4 HP at 120 VAC and 2 HP at 230 VAC.
- Adjustable pump range of 7 to 36 inches (18 to 91 cm).
- UL Recognized for use in water and sewage.
- CSA Certified.

LR54245

Member WATER QUALITY ASSOCIATION

U.S. Patent Nos. 5,087,801 & 5,142,108

OPTIONS

This switch is available with:

- for pump down or pump applications applications as specified by part number.
- with a 120 VAC or 230 VAC piggy back plug
- without a plug for direct wiring in 120 VAC or 230 VAC applications.
- available in several cable lengths

SPECIFICATIONS

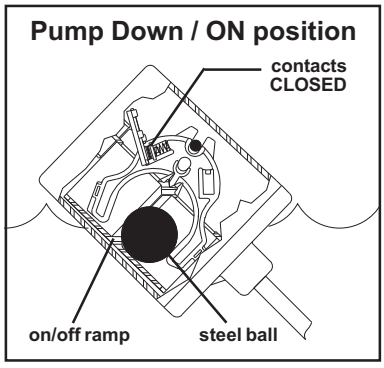
CABLE: flexible 14 gauge, 2 conductor (UL, CSA) SJOW, water-resistant, (CPE)

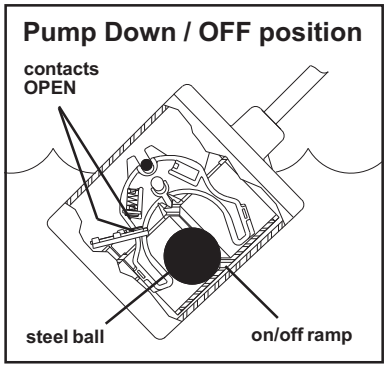
FLOAT: 3.05 inch diameter x 3.56 inch long (7.75 cm x 9.04 cm), high impact, corrosion resistant, PVC housing for use in sewage and water up to 140°F (60°C)

ELECTRICAL:

120 VAC 50/60Hz Single Phase:
Maximum Pump Run Current:
15 amps
Maximum Pump Starting Current:
85 amps
Recommended Pump HP:
3/4 HP or less

230 VAC 50/60Hz Single Phase:
Maximum Pump Run Current:
15 amps
Maximum Pump Starting Current:
85 amps
Recommended Pump HP:
2 HP or less





NOTE: This switch must be used with pumps that provide integral thermal overload protection.

ORDERING INFORMATION

With Plug PART#	DESCRIPTION	SHIPPING WEIGHT
PF15PMPD1WP	15FT WIDE ANGLE PUMP DOWN - 125V PLUG	2.23 lbs.
PF15PMPD2WP	15FT WIDE ANGLE PUMP DOWN - 250V PLUG	2.23 lbs.
PF20PMPD1WP	20FT WIDE ANGLE PUMP DOWN - 125V PLUG	2.57 lbs.
PF20PMPD2WP	20FT WIDE ANGLE PUMP DOWN - 250V PLUG	2.61 lbs.
PF25PMPD1WP	25FT WIDE ANGLE PUMP DOWN -125V PLUG	2.74 lbs.
PF50PMPD1WP	50FT WIDE ANGLE PUMP DOWN - 125V PLUG	3.63 lbs.

Without Plug PART#	DESCRIPTION	SHIPPING WEIGHT
PF15PMPDWOP	15FT WIDE ANGLE PUMP DOWN - W/O PLUG	2.13 lbs.
PF20PMPDWOP	20FT WIDE ANGLE PUMP DOWN - W/O PLUG	2.49 lbs.
PF25PMPDWOP	25FT WIDE ANGLE PUMP DOWN - W/O PLUG	2.82 lbs.
PF30PMPDWOP	30FT WIDE ANGLE PUMP DOWN - W/O PLUG	3.30 lbs.

D = Pump **D**own **U** = Pump **U**p
1 = **125** VAC **2** = **250** VAC
WP = **W**ith **P**lug **WOP** = **W**ith **O**ut **P**lug

LR54245

OTHER INFORMATION

PUMP DOWN is normally open contacts for emptying in potable water, water or sewage applications.

PUMP UP is normally closed contacts for filling in potable water, water or sewage applications.

DIRECT WIRING
Units used for direct wiring (without plug) may be used in 125 VAC or 250 VAC applications within specified amp ratings.

POWER-FLO® CONTROL
PHONE: 877-696-5554
FAX: 863-314-9953
WWW.POWERFLOCONTROL.COM

POWER-FLO® CONTROL

WIDE ANGLE MECHANICAL SPDT PUMP SWITCH

This mechanically-activated, wide-angle SPDT pump switch provides automatic control of pumps up to 1/2 HP at 120 VAC and 1 HP at 230 VAC in potable water, water and sewage applications. It can be wired to work in either pump down (normally open) or pump up (normally closed) applications. This pump switch is not sensitive to rotation or turbulence allowing it to be used in both calm and turbulent applications.

FEATURES

- Passed NSF Standard 61 protocol by an approved Water Quality Association laboratory.
- Can be wired to work in either pump down (normally open) or pump up (normally closed) applications (Single Pole, Double Throw).
- Heavy-duty contacts.
- Controls pumps up to 1/2 HP at 120 VAC and 1 HP at 230 VAC.
- For direct wiring in 120 or 230 VAC applications.
- Adjustable pump range of 7 to 36 inches (18 to 91 cm).
- UL Recognized for use in water and sewage.
- CSA Certified.

LR54245

Member WATER QUALITY ASSOCIATION

U.S. Patent Nos. 5,087,801 & 5,142,108

FLOATS

OPTIONS

This switch is available with:

- available in several cable lengths

SPECIFICATIONS

CABLE: flexible 16 gauge, 3 conductor (UL, CSA) SJOW, water-resistant, (CPE)

FLOAT: 3.05 inch diameter x 3.56 inch long (7.75 cm x 9.04 cm), high impact, corrosion resistant, PVC housing for use in sewage and water up to 140°F (60°C)

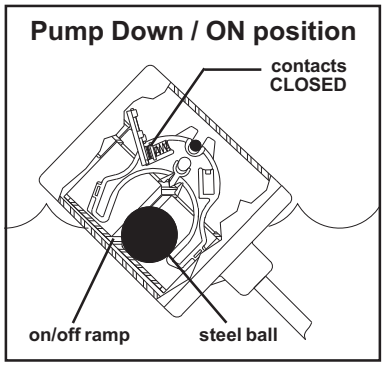
ELECTRICAL:

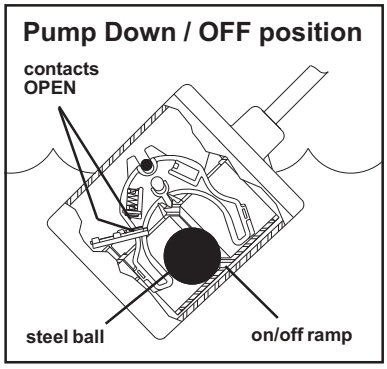
120 VAC 50/60Hz Single Phase:

Maximum Pump Run Current:
13 amps
Maximum Pump Starting Current:
85 amps
Recommended Pump HP:
1/2 HP or less

230 VAC 50/60Hz Single Phase:

Maximum Pump Run Current:
13 amps
Maximum Pump Starting Current:
85 amps
Recommended Pump HP:
1 HP or less





NOTE: This switch must be used with pumps that provide integral thermal overload protection.

ORDERING INFORMATION

Without Plug		
PART#	DESCRIPTION	SHIPPING WEIGHT
PF15PMSPDT	15FT WIDE ANGLE SPDT PUMP SWITCH	2.21 lbs.
PF20PMSPDT	20FT WIDE ANGLE SPDT PUMP SWITCH	2.61 lbs.

Can be wired to work in either pump down (normally open) or pump up (normally closed) applications.
(Single Pole, Double Throw)

LR54245

OTHER INFORMATION

PUMP DOWN is normally open contacts for emptying in potable water, water or sewage applications.

PUMP UP is normally closed contacts for filling in potable water, water or sewage applications.

DIRECT WIRING
Units used for direct wiring (without plug) may be used in 120 VAC or 230 VAC applications within specified amp ratings.

POWER-FLO® CONTROL
PHONE: 877-696-5554
FAX: 863-314-9953
WWW.POWERFLOCONTROL.COM

POWER-FLO® CONTROL

NARROW ANGLE MECHANICAL CONTROL SWITCH

This mechanically-activated, narrow angle control switch is designed to activate pump control panels and alarms. This control switch is used to accurately monitor liquid levels in potable water, water and sewage applications. The switch is not sensitive to rotation.

Normally Open Model (high level) turns on (closes) when the float tips slightly **above** horizontal signaling a high level, and turns off (opens) when the float drops slightly below horizontal.

Normally Closed Model (low level) turns on (closes) when the float tips slightly **below** horizontal signaling a high level, and turns off (opens) when the float drops slightly above horizontal.

FEATURES

- Passed NSF Standard 61 protocol by an approved Water Quality Association laboratory.
- Mechanically-activated, snap action contacts.
- High impact, corrosion resistant, polyproylene float housing.
- Not senstive to rotation.
- Control differential of 1.5 inches (4 cm) above or below horizontal.
- UL Listed for use in water and sewage.
- CSA Certified.

LR54245

LISTED 83N2

OPTIONS

This switch is available:

- CE certified unit available upon request.
- for normally open (high level) applications or normally closed (low level) applications.
- several cable lengths available

SPECIFICATIONS

CABLE: flexible 18 gauge, 2 conductor (UL, CSA) SJOW, water-resistant, (CPE)

FLOAT: 2.74 inch diameter x 4.83 inch long (7.0 cm x 12.3 cm), high impact, corrosion resistant, polypropylene housing for use in sewage and water up to 140°F (60°C)

MAXIMUM WATER DEPTH: 30 feet (9 meters), 13 psi (90 kPa)

ELECTRICAL: 5 amp, 125/250 VAC, 50/60 Hz

NOTE: This switch is not recommended for controlling:
- electric loads less than 100 milliamps, 12 VAC
- non-arcing electric loads

ORDERING INFORMATION

Normally Open		
PART#	**DESCRIPTION**	**SHIPPING WEIGHT**
PF15SGMNO	15FT NARROW ANGLE/NORMALLY OPEN	1.37 lbs.
PF20SGMNO	20FT NARROW ANGLE/NORMALLY OPEN	1.69 lbs.
PF25SGMNO	25FT NARROW ANGLE/NORMALLY OPEN	2.01 lbs.
PF30SGMNO	30FT NARROW ANGLE/NORMALLY OPEN	2.34 lbs.
PF50SGMNO	50FT NARROW ANGLE/NORMALLY OPEN	3.64 lbs.

Normally Closed		
PART#	**DESCRIPTION**	**SHIPPING WEIGHT**
PF25SGMNC	25FT NARROW ANGLE/NORMALLY CLOSED	2.01 lbs.
PF50SGMNC	50FT NARROW ANGLE/NORMALLY CLOSED	3.64 lbs.

LR54245

LISTED 83N2

OTHER INFORMATION

PUMP DOWN is normally open contacts for emptying in potable water, water or sewage applications.

PUMP UP is normally closed contacts for filling in potable water, water or sewage applications.

DIRECT WIRING
Units used for direct wiring (without plug) may be used in 120 VAC or 230 VAC applications within specified amp ratings.

POWER-FLO® CONTROL

NARROW ANGLE MECHANICAL SPDT CONTROL SWITCH

This mechanically-activated, narrow angle control switch is designed to activate pump control panels and alarms. This control switch is used to accurately monitor liquid levels in potable water, water and sewage applications. The switch can be wired in either normally open or normally closed applications and is not sensitive to rotation.

Normally Open Model (high level) turns on (closes) when the float tips slightly **above** horizontal signaling a high level, and turns off (opens) when the float drops slightly below horizontal.

Normally Closed Model (low level) turns on (closes) when the float tips slightly **below** horizontal signaling a high level, and turns off (opens) when the float drops slightly above horizontal.

FEATURES

LR54245

LISTED 83N2

- Passed NSF Standard 61 protocol by an approved Water Quality Association laboratory.
- Can be wired to work ineither pump down (normally open) or pump up (normally closed) applications (Single Pole, Double Throw).
- Mechanically-activated, snap action contacts.
- High impact, corrosion resistant, polyproylene float housing.
- Not senstive to rotation.
- Control differential of 1.5 inches (4 cm) above or below horizontal.
- UL Listed for use in water and sewage.
- CSA Certified.

OPTIONS

This switch is available:

- CE certified unit available upon request.
- for normally open (high level) applications or normally closed (low level) applications.
- several cable lengths available

SPECIFICATIONS

CABLE: flexible 18 gauge, 3 conductor (UL) SJOW, water-resistant, (CPE)

FLOAT: 2.74 inch diameter x 4.83 inch long (7.0 cm x 12.3 cm), high impact, corrosion resistant, polypropylene housing for use in sewage and water up to 140°F (60°C)

MAXIMUM WATER DEPTH: 30 feet (9 meters), 13 psi (90 kPa)

ELECTRICAL: 5 amp, 125/250 VAC, 50/60 Hz

NOTE: This switch is not recommended for controlling:

- electric loads less than 100 milliamps, 12 VAC
- non-arcing electric loads

ORDERING INFORMATION

Normally Open or Normally Closed		
PART#	**DESCRIPTION**	**SHIPPING WEIGHT**
PF15SGMSPDTWE	15FT NARROW ANGLE SPDT CONTROL SWITCH	1.61 lbs.
PF20SGMSPDTWE	20FT NARROW ANGLE SPDT CONTROL SWITCH	2.01 lbs.
PF25SGMSPDTWE	25FT NARROW ANGLE SPDT CONTROL SWITCH	2.41 lbs.
PF30SGMSPDTWE	30FT NARROW ANGLE SPDT CONTROL SWITCH	2.82 lbs.
PF50SGMSPDTPC	50FT NARROW ANGLE SPDT CONTROL SWITCH	4.44 lbs.
PF15SGMSPDTPC	15FT NARROW ANGLE SPDT CONTROL SWITCH	1.61 lbs.
PF20SGMSPDTPC	20FT NARROW ANGLE SPDT CONTROL SWITCH	2.01 lbs.
PF25SGMSPDTPC	25FT NARROW ANGLE SPDT CONTROL SWITCH	2.41 lbs.
PF30SGMSPDTPC	30FT NARROW ANGLE SPDT CONTROL SWITCH	2.82 lbs.
PF50SGMSPDTPC	50FT NARROW ANGLE SPDT CONTROL SWITCH	4.44 lbs.

WE = **W**eighted **E**xternally **PC** = **P**ipe **C**lamp

Can be wired to work in either pump down (normally open) or pump up (normally closed) applications.
(Single Pole, Double Throw)

OTHER INFORMATION

NORMALLY OPEN (high level) Operation
The control switch closes (turns on) when the float tips slightly **above** horizontal signaling an high level, and opens (turns off) when the float drops slightly **below** horizontal in potable water, water or sewage applications.

NORMALLY CLOSED (low level) Operation
The control switch closes (turns on) when the float tips slightly **below** horizontal signaling a low level, and opens (turns off) when the float drops slightly **above** horizontal in potable water, water or sewage applications.

POWER-FLO® CONTROL

VFD CONTROLLERS

These controllers were designed with the pump service operators and pump system owners in mind. They offer ease of setup and comprehensive pump and motor protection features. The integrated pump specific software and setup parameters, allow the operator to setup specific control values for a wide range of applications. The controller will automatically adjust pump operating conditions, as the process variable change while still maintaining optimum pump performance and protection.

Models & Ratings for Controller

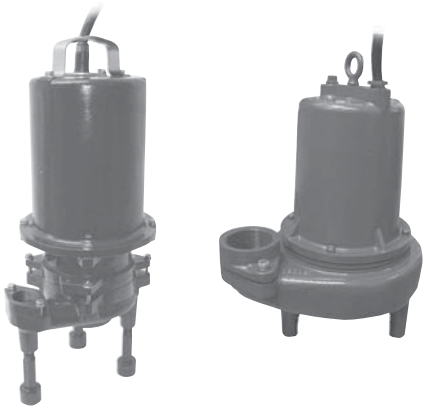
Rated Input Voltage	Drive Model Number	Rated Output Current (Amps)	Nominal HP	Standard Enclosure
208V	PFV217	16.8	5	NEMA 1
	PFV223	23	5	
	PFV231	31	7.5	
	PFV231	31	10	
	PFV247	46.2	15	
	PFV260	59.4	20	
	PFV275	74.8	25	
	PFV288	88	30	
	PFV2115	11.5	40	
240V	PFV317	16.8	5	
	PFV323	23	7.5	
	PFV331	31	10	
	PFV347	46.2	15	
	PFV360	59.4	20	
	PFV375	74.8	25	
	PFV388	88	30	
	PFV3115	115	40	
480V	PFV48	7.6	5	
	PFV49	8.7	5	
	PFV413	12.5	7.5	
	PFV417	17	10	
	PFV421	21	15	
	PFV427	27	20	
	PFV434	34	25	
	PFV440	40	30	
	PFV451	50.4	30	
	PFV452	52	40	
	PFV468	67.2	50	
	PFV477	77	60	
	PFV496	96	75	
	PFV4125	125	100	

POWER-FLO® CONTROL

BASINS AND ACCESSORIES

GRINDER/SEWAGE PUMP PACKAGE SYSTEM

- Grinder and Sewage packages are available in poly and fiberglass basins.
- Simplex and duplex pumps and controls
- Rail systems can be supplied for ease of installation and servicing.



BASE ELBOWS FOR RAIL SYSTEMS

- Ductile iron construction
- Powder coated for corrosion resistance
- Stainless steel upper and lower guide brackets standard
- Compact design for easy installation
- Slide couplings with check valve on 1 1/4", 1 1/2" & 2"
- Stainless intermediates and stainless lifting chain kits also available

PF125,150,200,300SC

PF125,150,200SCV

PF400&600SC

Part/Model No.	Size M = Male F= Female	with Check Valve	Max Pump Weight	Guide Rail Pins to accept
PF125SC	1-1/4" NPTM x 2" NPTF	PF125SCV	200 lbs	3/4" & 1"
PF150SC	1-1/2" NPTM x 2" NPTF	PF150SCV	200 lbs	3/4" & 1"
PF200SC	2" NPTM x 2" NPTF	PF200SCV	200 lbs	3/4" & 1"
PF300SC	3" NPTM x 3" NPTF	--	400 lbs	3/4", 1" & 1-1/4"
PF400SC	4" x 4" ANSI FLANGES	--	2000 lbs	2"
PF600SC	6" x 6" ANSI FLANGES	--	2000 lbs	2"

Siemens Starters and Controllers

CLASS 14

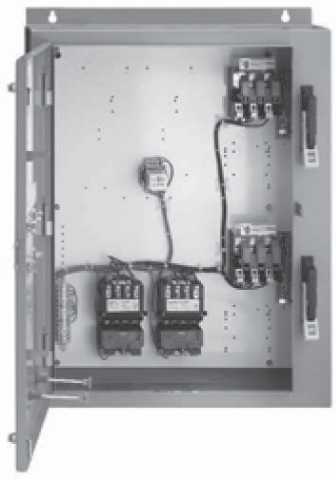
NEMA starters are ideal for applications requiring dependability and durability. These starters are built rugged to withstand the most severe and demanding industrial and continuous duty commercial applications in the industrial and construction markets. This includes standard full NEMA sizes and motor matched half sizes exclusive to Siemens. Starters are available as a wide selection of accessories and spare parts.

CLASS 17, 18, 25, 26 and 32

COMBINATION STARTERS

- Disconnect handle accepts 3 -3/8" padlocks in off position
- Disconnect door interlock with defeater
- Rugged 30mm pilot controls meet Type 3, 4, 12 & 13
- Convenient knockouts for up to 4 pilot controls
- Predrilled holes for easy mounting of standard options
- Heavy-duty disconnect switch with visible blades for safety and double break switch action to reduce arcing

CLASS 84



DUPLEX MOTOR CONTROLLERS

The Siemens duplex motor controllers are specifically designed for industrial and commercial applications that require duplex controls such as duel pumps and blowers. They are built to withstand demanding environments found both indoors and outdoors. Duplex motor controllers consist of two motor starters in a common enclosure. Class 84 is a combination duplex motor controller with two separate disconnects or circuit breakers.

- Heavy-duty NEMA starter sizes 0-4 including Siemens' exclusive half-size starters to provide reliable motor control and protection expected in the most demanding applications
- Combination controllers are available with a disconnect switch or circuit breaker
- Alternator controls included as standard
- Door is removable for ease of installation and maintenance
- Factory and field modifications for custom applications
- UL listed

NOTES:

POWER-FLO® CONTROL
PHONE: 877-696-5554
FAX: 863-314-9953
WWW.POWERFLOCONTROL.COM

PANEL ENCLOSURE STANDARDS & SPECIFICATIONS

PowerFlo® Control uses panel enclosures that meet the general standards of NEMA (National Electrical Manufacturers Association) and EEMAC (Electrical and Electronic Mfg. Association of Canada). Shown below are enclosure types with a general description of performance specifications from NEMA, UL (Underwriters Laboratories, Inc.) and CSA (Canadian Standards Association), now affiliated with UL.

Enclosure Rating	NEMA / EEMAC (NEMA Standard 250)	UL (UL 50 and UL 508)	CSA (Standard C22.2 No. 94)
Type 1	Enclosures are intended for indoor use primarily to provide a degree of protection against contact with the enclosed equipment or locations where unusual service conditions do not exist.	Indoor use primarily to provide protection against contact with the enclosed equipment and against a limited amount of falling dirt.	General-purpose enclosure. Protects against accidental contact with live parts.
Type 2	Enclosures are intended for indoor use primarily to provide a degree of protection against limited amounts of falling water and dirt.	Indoor use to provide a degree of protection against limited amount of falling water and dirt.	Indoor use to provide a degree of protection against dripping and light splashing of non-corrosive liquids and falling dirt.
Type 3	Enclosures are intended for outdoor use primarily to provide a degree of protection against windblown dust, and rain, and sleet; undamaged by the formation of ice on the enclosure.	Outdoor use to provide a degree of protection against windblown dust and rain; undamaged by the formation of ice on the enclosure.	Indoor or outdoor use; provides a degree of protection against rain, snow, and windblown dust; undamaged by the external formation of ice on the enclosure.
Type 3R	Enclosures are intended for outdoor use primarily to provide a degree of protection against falling rain and sleet; undamaged by the formation of ice on the enclosure.	Outdoor use to provide a degree of protection against falling rain; undamaged by the formation of ice on the enclosure.	Indoor or outdoor use; provides a degree of protection against rain and snow; undamaged by the external formation of ice on the enclosure.
Type 4	Enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against windblown dust and rain, splashing water, and hose-directed water; undamaged by the formation of ice on the enclosure.	Either indoor or outdoor use to provide a degree of protection against falling rain, splashing water and hose-directed water; undamaged by the formation of ice on the enclosure.	Indoor or outdoor use; provides a degree of protection against rain, snow, and windblown dust, splashing and hose-directed water; undamaged by the external formation of ice on the enclosure.
Type 4X	Enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against corrosion, windblown dust and rain, splashing water, and hose-directed water; undamaged by the formation of ice on the enclosure.	Either indoor or outdoor use to provide a degree of protection against falling rain, splashing water and hose-directed water; undamaged by the formation of ice on the enclosure; resists corrosion.	Indoor or outdoor use; provides a degree of protection against rain, snow, and windblown dust, splashing and hose-directed water; undamaged by the external formation of ice on the enclosure; resists corrosion.
Type 6	Enclosures are intended for indoor or outdoor use where occasional submersion is encountered at limiter depth; undamaged by the formation of ice on the enclosure.	Indoor or outdoor use to provide a degree of protection against entry of water during temporary submersion at a limited depth; undamaged by the formation of ice on the enclosure.	Indoor or outdoor use; provides a degree of protection against entry of water during temporary submersion.
Type 12	Enclosures are intended for indoor use primarily to provide a degree of protection against dust, falling dirt, and dripping non-corrosive liquid.	Indoor use to primarily to provide a degree of protection against dust, dirt, fiber flyings, dripping water, and external condensation of non-corrosive liquids.	Indoor use; provides a degree of protection against circulating dust, lint, fibers, and flyings; dripping and light splashing of non-corrosive liquids; not provided with knockouts.
Type 13	Enclosures are intended for indoor use primarily to provide a degree of protection against dust, spraying of water, oil, and non-corrosive coolants.	Indoor use to provide a degree of protection against dust, seepage, external condensation and spraying of water, oil, and non-corrosive liquids.	Indoor use; provides a degree of protection against circulating dust, lint, fibers, and flyings; seepage and spraying of non-corrosive liquids, including oils and coolants.

ENCLOSURE PROTECTION & CROSS REFERENCE

Comparison of Specific Non-Hazardous Applications - Outdoor & Indoor Locations

Provides a Degree of Protection Against the following Environmental Conditions	Type of Enclosure								
	1*	2*	3	3R**	4	4X	6	12	13
Incidental Contact with the enclosed equipment	●	●	●	●	●	●	●	●	●
Rain, snow, and sleet++			●	●	●	●	●		
Sleet##									
Windblown dust			●		●	●	●		
Hosedown					●	●	●		
Corrosive agents						●			
Occasional temporary submersion							●		
Occasional prolonged submersion									
Falling dirt	●	●	●	●	●	●	●	●	●
Falling liquids and light splashing		●			●	●	●	●	●
Dust, linit, fibers and flyings#					●	●	●	●	●
Hosedown and splashing water					●	●	●		
Oil and coolant seepage								●	●
Oil or coolant spraying and splasing									●

* These enclosures may be ventilated. However, Type 1 may not provide protection against small particles of falling dirt when ventilation is provided in the enclosure top.

\# These fibers and flyings are non-hazardous materials and are not considered Class II type ignitable fibers or combustible flyings.

For Class III type ignitable fibers or combustible flyings see the National Electric Code Section 500-6(a).

++ External operating mechanisms are not required to be operable when the enclosure is ice covered.

External operating mechanisms are not operable when the enclosure is ice covered.

** These enclosures may be ventilated.

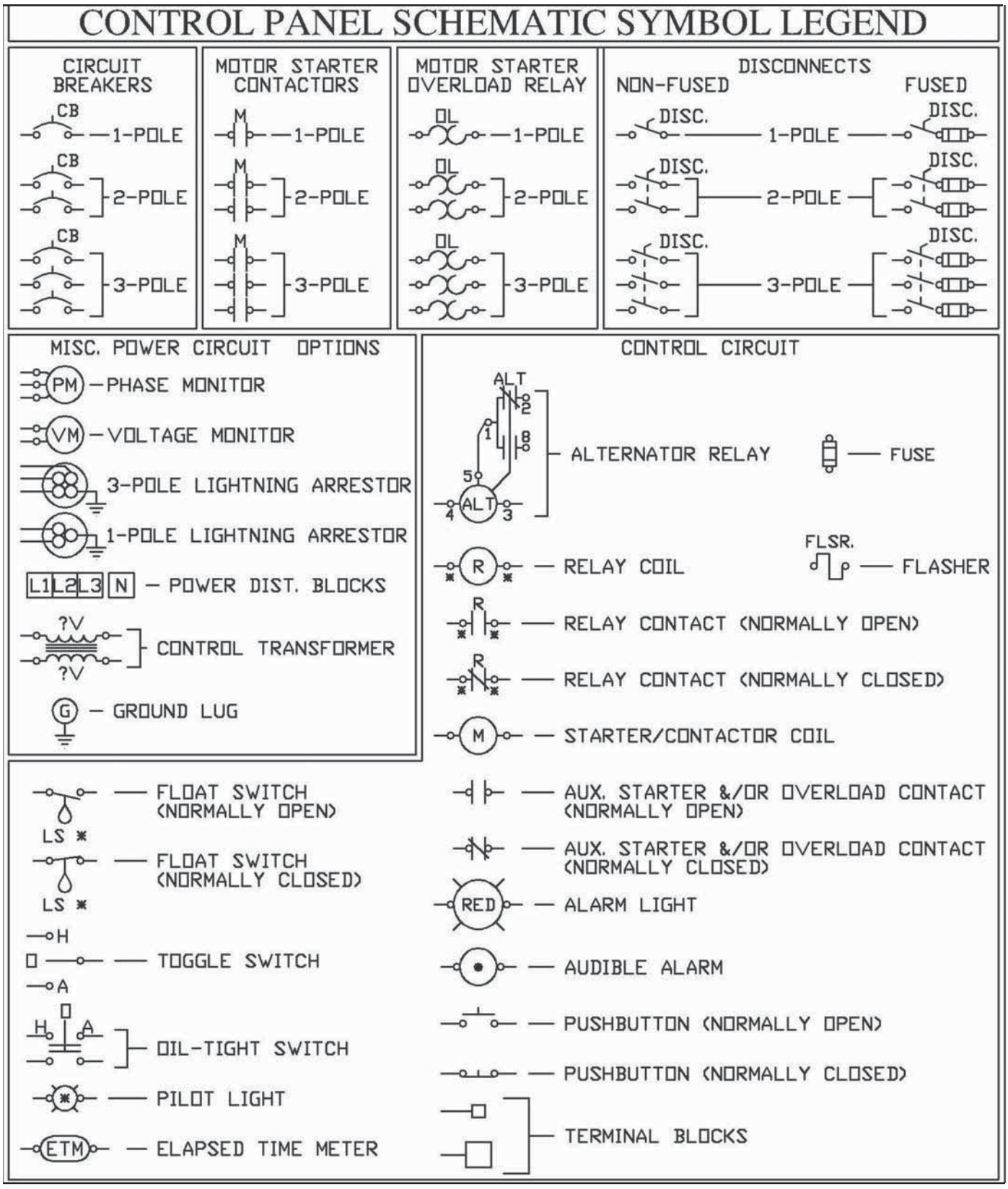
Cross-Reference (Approximate) NEMA, UL CSA vs. IEC Enclosure Type

Enclosure Rating	IP23	IP30	IP32	IP55	IP64	IP65	IP66	IP67
Type 1	●							
Type 2		●						
Type 3								
Type 3R			●					
Type 4							●	
Type 4X							●	
Type 6								●
Type 12				●				
Type 13						●		

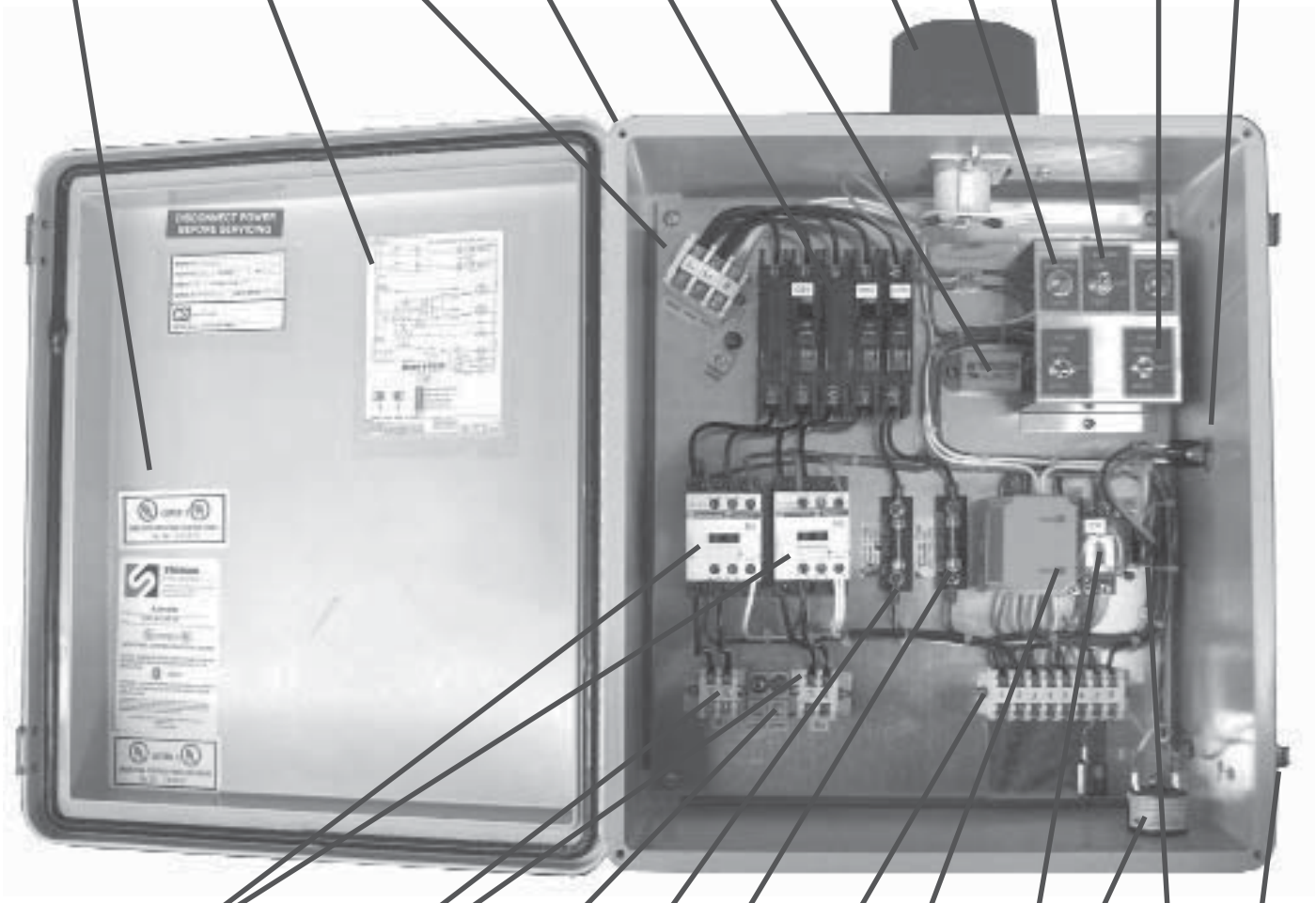
Note: Cannot be used to convert IEC Classifications to NEMA Type numbers.

SCHEMATIC SYMBOL LEGEND

The following are commonly-used symbols for various components used in CSI control panel schematics.



TYPICAL CONTROL PANEL



ELECTRICAL & CONTROL PANEL VOCABULARY

AC (Alternating Current): 1. An electric current that reverses its direction at regular intervals. 2. A flow of electricity which reaches maximum in one direction, decreases to zero, then reverses itself and reaches maximum in the opposite direction. The cycle is repeated continuously. The number of such cycles per second is the frequency.

Alarm Condition: Condition that warns operator of a problem with system. An example would be a high water alarm which will activate horn and light.

Amps: The unit of measure or electrical current flow.

Alternator: Device designed for alternating the run cycle or duplexing of two motors automatically, which equalizes pump wear.

Circuit Breaker: A switch that protects an electrical circuit from overload by opening the circuit when the current flow exceeds a predetermined level. It serves the same purpose as a fuse and can be reset either manually or electrically after the overload is removed.

Closed Circuit: A circuit in which there is a complete current path from the voltage source, through the circuit, and back to the voltage source.

Conduit: Plastic or metal piping used to protect electrical conductors (wires) or cables.

Contactor: An electrical relay used to control the flow of power in a circuit.

Control Panel: An enclosure containing pump/motor control components and alarms. Examples of these components might be: contactor(s), relays, terminal strip, alarm components, etc.

Current: The flow of electrons through a circuit. Current flow is measured in amperes, but this unit may be too large for some applications, so milliamperes (thousandths of an amp) are also used for measurement.

Cycle: (Pump Term) The normal on-off operation of the pump to keep the liquid level at a set point.

DC (Direct Current): Electrical flow in one direction only (like a battery). It is the flow of charges in just one direction with a fixed polarity of applied voltage.

Direct Wire: Wiring a float switch directly to a pump or a control panel (without piggy-back plug).

Discharge Pipe: The pipe that passes the liquid out of the pit or sump. The outlet pipe opposite the suction side of the pump.

Double Pole, Double Throw (DPDT): A six-terminal switch or relay contact arrangement that simultaneously connects one independent pair of terminals to either of two other independent pairs of terminals.

Duplex System: A double pump system where pumping time is alternated between two pumps. When one pump is running the second acts as a stand-by to handle overload or pump failure.

ELECTRICAL & CONTROL PANEL VOCABULARY

Electrical Contact: A physical contact that permits current flow between conducting parts.

External Weight: The weight secured to a float switch cable which serves as a pivot point.

Flasher: The device utilized in alarm systems that flashes the light on and off at regular intervals.

Float Switch: A commonly used term to describe a switch that is buoyant in liquid and tilted on an axis (pivot point).

Fuse: A circuit protective device. When the voltage or current becomes excessive, the fuse burns out and opens the circuit path.

Ground: A return path to the generator through the earth, or through a common connection.

Insulator: A material that will not readily conduct electricity.

Intrinsically Safe: Intrinsically safe barrier, which is designed to limit the energy (voltage and current) to the sensors in a classified hazardous location, under specified fault conditions.

Junction Box: Term applied to a PVC reinforced box used to contain and protect cable connections.

Lag Float: In a duplex system, the float switch that activates a secondary pump or alarm (lag pump) if the lead pump cannot handle the flow.

Lead Float: Float switch that starts the lead pump in a duplex pump system.

LED: (Light Emitting Diode) Warning light device with longer life than a light bulb.

Liquid Level Controls: Pump and valve controls used for maintaining preset liquid levels.

Mechanical Float Switch: A mechanically activated switch that is buoyant in liquid and tilted on an axis (pivot point).

Mercury Float Switch: A mercury activated switch that is buoyant in liquid and tilted on an axis (pivot point).

Motor: An electrical component that converts electricity to rotation.

Motor Contactor: An electro-mechanical power relay used to switch pump load.

Motor Starting Current: Amount of current needed to start a motor (starting amps or in rush).

NEMA: National Electrical Manufacturer's Association.

Normally Closed (NC): Reverse action switch, when the float is hanging down, the circuit is closed (continuity made).

ELECTRICAL & CONTROL PANEL VOCABULARY

Normally Open (NO): Contacts are open (no continuity between the poles) when the float is hanging down.

OHMS: A value-measure of electrical resistance in a conductor, element, resistor, etc.

Piggy-Back Plug: A molded plug configuration used on pump switches which when plugged into an AC power outlet, allows the molded plug of the pump to be plugged into it. This allows the switch to control the pump.

Pump Circuit: The circuit in line with the pump and incoming pump power that provides power, control and protection for the pump.

Pump Cycle: One complete normal on-off function of the pump.

Pump Chatter: Very rapidly starting and stopping a pump, relay, motor contacts, etc. which may cause overheating and damage. This is caused by the contact being opened and closed rapidly perhaps due to turbulence. A common problem with float switches.

Pumping Range: Difference between pump "on" level and pump "off" level.

Relay: An electrical-mechanical activated set of contacts used to make or break a circuit when it is electrically activated or deactivated.

Relay Contacts: The mechanical poles that make or break a circuit. These are housed in a relay, and activated by relay solenoid.

Resistor: An electrical component used for introducing resistance into a circuit to reduce the voltage.

Secondary Voltage: Generally the lowered (transformed) voltage on a control system.

Shock Hazards: Open conductors or terminals that could allow electrical current to pass through flesh to ground.

Simplex: A single pump control system.

Single Phase: Refers to a circuit energized by a single alternating electric force. Common voltage levels are 120V, 208V, or 240V.

Solenoids (Electro-Magnet): An inductor that serves as a magnetic force to close contacts on a relay, and also to shift a solenoid control valve.

Single Pole Double Throw (SPDT): Mechanically activated float switch that can be wired for normally open or normally closed operation.

Single Pole Single Throw (SPST): Contact configuration which makes or breaks a single circuit only. Opens and closes a single conductor only.

ELECTRICAL & CONTROL PANEL VOCABULARY

Starting Current: The high initial inrush current (amps) required to accelerate motors to operating speed.

Switch: A component that opens or closes a circuit path.

Terminal Block: A grouping of screw terminals used to join AC power circuits, pump circuits, and float switch circuits into a system.

Test Button: Push button switch on control panels to test devices (light and horn).

Three Phase: Energy consisting of three alternating electrical forces that differ in phase by one-third of a cycle or 120 degrees.

Transformer: Changes AC voltage to a higher or lower level.

Turbulence: Movement (splashing or inrush impact) of liquid which might affect float switch performance and cause pump chatter. A common problem with float switches.

U.L. Listing: (Underwriters Laboratories) offers formal recognition that the device or product meets specified standards.

Volts: A unit of measurement for the voltage rise or voltage drop in a circuit.

Warning Horn: Audible warning indicator.

Warning Light: Visual warning indicator.

Watts: The unit of measurement for electric power.

Wire Nuts: Screw connectors used to join conductors together.

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