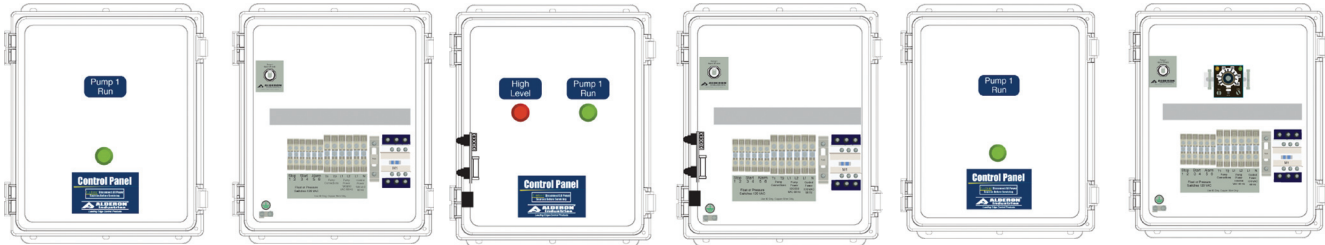




APPS Control Panels

SIMPLEX SINGLE PHASE CONTROL PANELS



S10

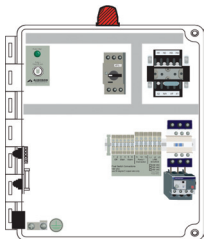
- NEMA 1 (Indoor rated)
- 115V, 208V, or 230V
- HOA switch
- Green pump run indicator

S10LH

- NEMA 1 (Indoor rated)
- 115V, 208V, or 230V
- HOA switch
- Green pump run indicator
- Red alarm indicator
- Test and Silence switches

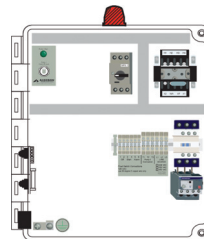
S10-MR

- NEMA 1 (Indoor rated)
- 115V, 208V, or 230V
- HOA switch
- Green pump run indicator
- Minimum run timer



S10WLH

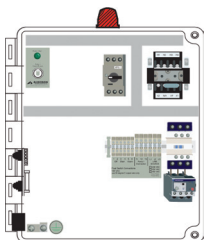
- NEMA 4X (outdoor rated)
- 115V, 208V, or 230V
- HOA switch
- Green pump run indicator
- Red alarm beacon
- Test and Silence switches



S10WLH-MR

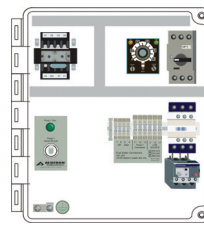
- NEMA 4X
- 115V, 208V, or 230V
- HOA switch
- Green pump run
- Minimum run timer
- Red alarm beacon
- Test and Silence switches

SIMPLEX THREE PHASE CONTROL PANELS



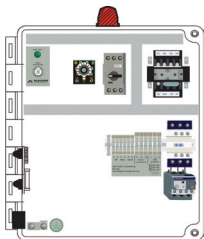
S32WLH

- NEMA 4X
- 208/230/460 VAC
- Motor protective switch
- Pump overload relay
- HOA switch
- Green pump run indicator
- Red alarm beacon



S32MR

- NEMA 4X
- 208/230/460 VAC
- Motor protective switch
- Pump overload relay
- HOA switch
- Green pump run indicator
- Minimum run timer



S32WLH-MR

- NEMA 4X
- 208/230/460 VAC
- Pump overload relay
- HOA switch
- Green pump run indicator
- Red alarm beacon
- Minimum run timer



DUPLIX SINGLE PHASE CONTROL PANELS



D10LH

- NEMA 1
- 115V, 208V, or 230V
- HOA switches
- Green pump run indicators
- Red alarm indicators
- Test and Silence switches
- Alternating Relay



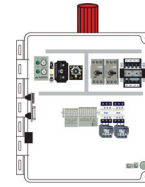
D10-MR

- NEMA 1
- 115V, 208V, or 230V
- HOA switches
- Minimum run timer
- Green pump run indicators
- Alternating Relay



D10WLH

- NEMA 4X
- 115V, 208V, or 230V
- Alternating Relay
- HOA switches
- Green pump run indicators
- Red alarm beacon
- Test and Silence switches



D10WLH-MR

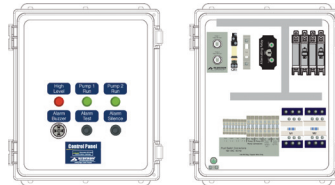
- NEMA 4X
- 115V, 208V, or 230V
- Alternating Relay
- HOA switches
- Minimum run timer
- Green pump run indicators
- Red alarm beacon
- Test and Silence switches

DUPLIX THREE PHASE CONTROL PANELS



D32-MR

- Nema 1
- 208/230/460 vac
- Pump overload relays
- HOA switches
- Green pump run indicators
- Motor protective switches
- Minimum run timer
- Alternating Relay



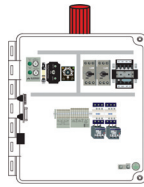
D32WLH

- Nema 4x
- 208/230/460 vac
- Overload relays
- HOA switches
- Green pump run indicators
- Red alarm beacon/buzzer
- Motor protective switches
- Alternating Relay



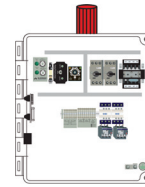
D32WLH-MR

- Nema 4x
- 208/230/460 vac
- Pump overload relays
- HOA switches
- Green pump run indicators
- Red alarm beacon/buzzer
- Motor protective switches
- Minimum run timer
- Alternating Relay



D32WLH-SFT

- Nema 4x
- 208/230/460 vac
- Pump overload relays
- Red seal fail indicator
- HOA switches
- Green pump run indicators
- Red alarm beacon/buzzer
- Motor protective switches
- Alternating Relay



D32WLH-IS-SFT

- NEMA 4X
- INTRINSICALLY SAFE
- Alarm Beacon/Buzzer
- 208/230/460 vac
- Pump overload relays
- Seal fail indicator (red)
- HOA switches provide
- Green pump run indicators
- Red alarm beacon/buzzer
- Alternating Relay

All of our control panels are UL listed.

*** Please contact us for unlimited options for custom controls including touch screens, SCADA compatible systems, VFD systems, triplex and other multi pump systems, and much more.

For submittal sheets and schematics on each of our standard control panels please visit our website at aquapumpsystems.com

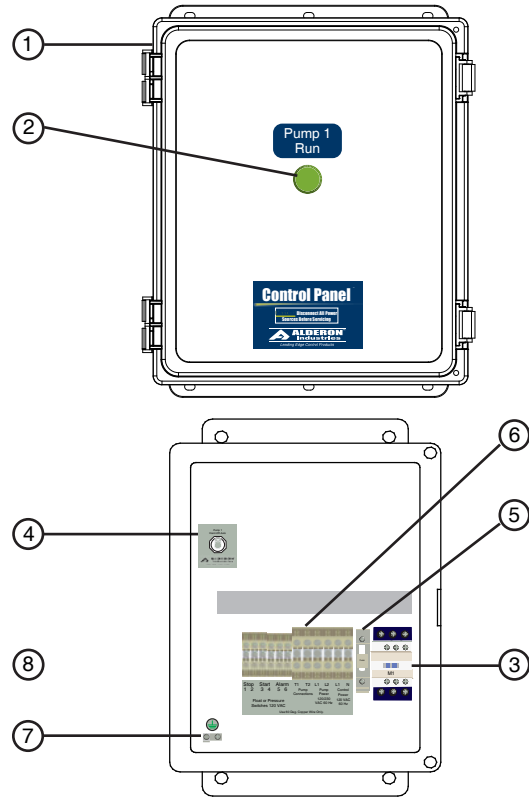


S10

Single Phase Simplex/Nema 1/No Alarm

Description of Operation

The S10 is a NEMA 1 (Indoor rated) SINGLE PHASE SIMPLEX control panel that will operate a 115V, 208V, or 230V pump for water or wastewater applications. This panel operates with (2) float switches. An HOA switch is used to manually run the pump. A green pump run indicator is located on the front door of the panel and will indicate if the pump is running.



Electrical Ratings

- 1 Phase
- 0-20 Amps
- 120/208/230V
- 60 Hz.

External Components

- ① 10X8X6 NEMA1 Polyester Enclosure
- ② Pump Run Indicator

Features and Benefits

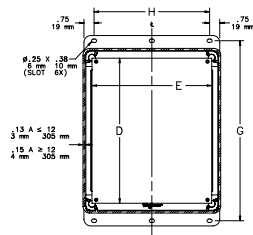
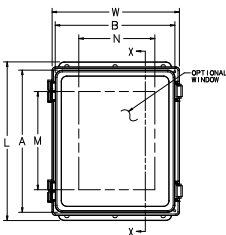
- Labeled terminal blocks for easy installation of floats or switches
- (Optional float switches)
- 1 Year Warranty

Internal Components

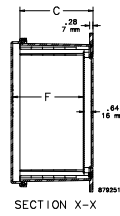
- ③ IEC Motor Contactor
- ④ HOA Switch
- ⑤ Fuse (1 amp)
- ⑥ Terminal Blocks
- ⑦ Ground Lug
- ⑧ UL Listed

Standard Sizes PolyPro Type 1 Polyester Enclosures

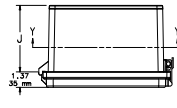
Enclosure Catalog Number		Enclosure Size A x B x C in. (mm)	Aluminum Panel Catalog Number	Panel Size D X E in. (mm)	F in. (mm)	G in. (mm)	H in. (mm)	J in. (mm)	L in. (mm)	M ^b in. (mm)	N ^b in. (mm)	W in. (mm)
Solid Door	Window Door											
A1084PHC	A1084PHCW	10.12 x 8.12 x 4.38 (257 x 206 x 111)	A10P8AL	8.75 x 6.88 (222 x 175)	4.32 (110)	11.38 (289)	6.56 (167)	3.91 (99)	12.15 (309)	8.25 (210)	6.25 (159)	9.23 (234)



SECTION Y-Y

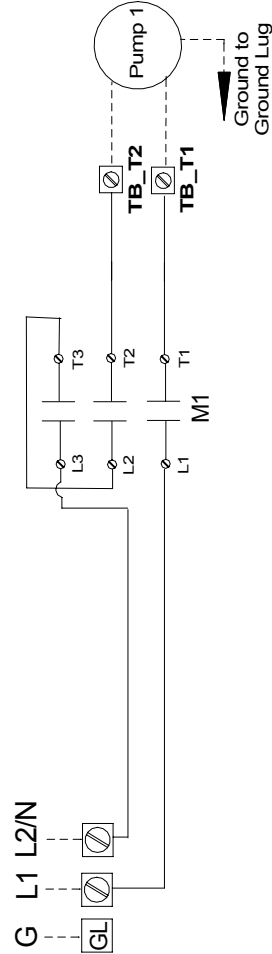


SECTION X-X



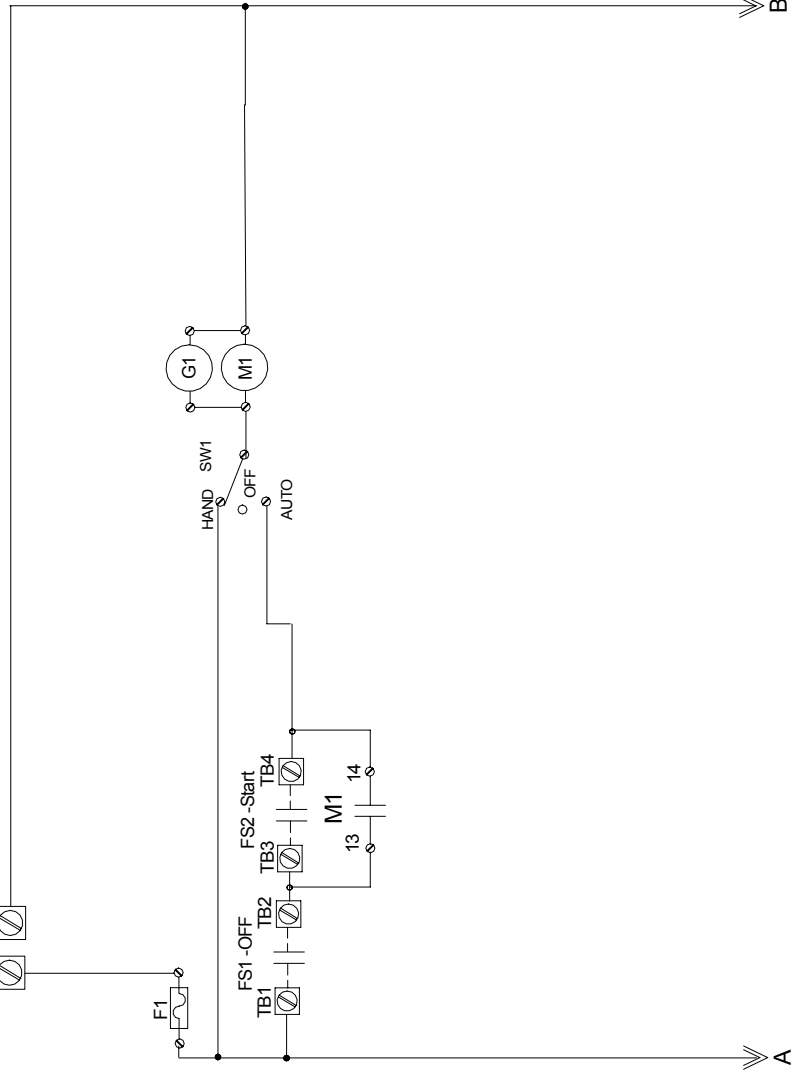
NOTES: 1. **WARNING!** Electrical Shock Hazard! Disconnect power before servicing this product. A qualified service person must install and service this product according to applicable electrical and plumbing codes.
 2. Install in accordance with National Electric Code, NFPA 70. Seal all boxes, fittings and conduit with appropriate seal devices to prevent moisture and gases from entering enclosure.
 3. Connect all grounds to a good ground. 4. Dashed lines represent field wiring - Use only 60 deg C Copper Wire

Incoming Power
 120/230VAC
 60HZ
 G L1 L2/N



Pump Load
 120/230 VAC, 0 - 20 Amps, 50/60 Hz
 Pumps must contain integral
 thermal overload protection

Alarm/Control
 Power 120VAC,
 60HZ
 L1 N



DWG # S10 REV: A
 DATE: 11/28/07 SHEET: 1 OF 1

TITLE: Single Phase Simplex

Quote: QXXXX
 DRAWN BY: B. Klabunde

LINE VOLTAGE: 120/230
PHASE: 1
HERTZ: 60

AVG. OR CIRCULAR MILL SIZE	TIGHTENING TORQUE IN INCH POUNDS	EXTERNAL DRIVE WRENCH
14	35	75
12	35	75
10	35	75
8	40	75
6	45	110
4	45	110
2	50	150
1	50	150
1/0	50	180
2/0	50	180

FIELD WIRING TERMINAL BLOCK

1 F1 FUSE MUST BE REPLACED WITH 1 AMP TYPE AGC FAST ACTING 250 V/MAX.

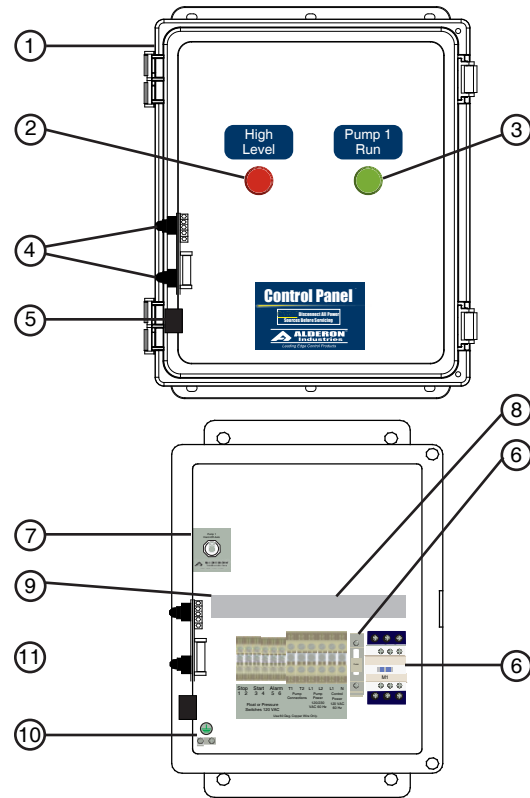
GL	Ground Lug
SW1	HOA Switch
G1	Pump Run Indicator
M1	Magnetic Contactor

S10LH

Single Phase Simplex/Nema 1/Alarm

Description of Operation

The S10LH is a NEMA 1 (Indoor rated) SINGLE PHASE SIMPLEX control panel that will operate a 115V, 208V, or 230V pump for water or wastewater applications. This panel operates with (3) float switches. An HOA switch is used to manually run the pump. A green pump run indicator is located on the front door of the panel and will indicate if the pump is running. A red alarm indicator is located on the front door of the control panel. Test and Silence switches are located on the bottom left side of the control panel. Use the test switch to test the system alarm and use the silence switch to stop the alarm buzzer. (the indicator will remain on). When the high liquid level is cleared, the alarm will automatically reset.



Electrical Ratings

- 1 Phase
- 0-20 Amps
- 120/208/230V
- 60 Hz.

Features and Benefits

- Labeled terminal blocks for easy installation of floats or switches
- (Optional float switches)
- 1 Year Warranty

External Components

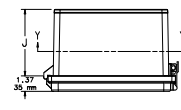
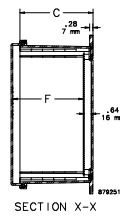
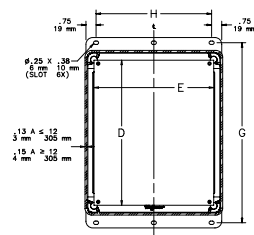
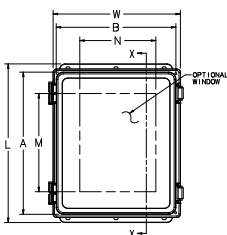
- ① 10X8X6 NEMA 1 Polyester Enclosure
- ② High Alarm Indicator
- ③ Pump Run Indicator
- ④ Test/Silence Switches
- ⑤ Alarm Buzzer (95dB)

Internal Components

- ⑥ IEC Motor Contactor
- ⑦ HOA Switch
- ⑧ Fuse (1 amp)
- ⑨ Terminal Blocks
- ⑩ Ground Lug
- ⑪ UL Listed

Standard Sizes PolyPro Type 1 Polyester Enclosures

Enclosure Catalog Number		Enclosure Size A x B x C in. (mm)	Aluminum Panel Catalog Number	Panel Size D X E in. (mm)	F in. (mm)	G in. (mm)	H in. (mm)	J in. (mm)	L in. (mm)	M ^b in. (mm)	N ^b in. (mm)	W in. (mm)
Solid Door	Window Door											
A1084PHC	A1084PHCW	10.12 x 8.12 x 4.38 (257 x 206 x 111)	A10P8AL	8.75 x 6.88 (222 x 175)	4.32 (110)	11.38 (289)	6.56 (167)	3.91 (99)	12.15 (309)	8.25 (210)	6.25 (159)	9.23 (234)





Phone 925.754.5686 Fax 925.754.5691
 Email Sales@TomikoInc.com
 PO Box 8056, Pittsburg, CA 94565

DWG # S10LH REV: A
 DATE: 11/28/07 SHEET: 1 OF 1

TITLE: Single Phase Simplex

Quote: QXXXX
 DRAWN BY: B. Klabunde

LINE VOLTAGE: 120/230
PHASE: 1
HERTZ: 60

AVG. OR CIRCULAR MILL SIZE	TIGHTENING TORQUE IN INCH-POUNDS	EXTERNAL DRIVE SREW DRIVER	WRENCH
14	35		75
12	35		75
10	35		75
8	40		75
6	45		110
4	45		110
2	50		150
1	50		150
1/0	50		180
2/0	50		180

FIELD WIRING TERMINAL BLOCK

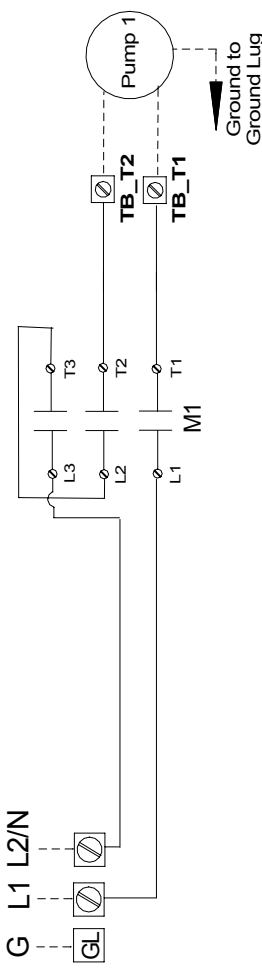
1 F1 & F2 FUSES MUST BE REPLACED WITH 1 AMP TYPE AGC FAST ACTING 250 V MAX.

CR	Control Relay
SW1	HOA Switch
G1	Pump Run Indicator
M1	Magnetic Contactor
GL	Ground Lug
PB	Push Button
R	Alarm Indicator
B	Alarm Buzzer

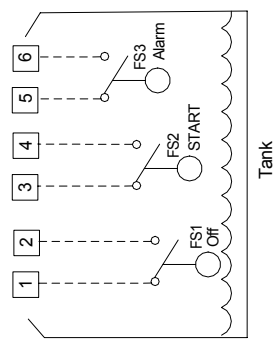
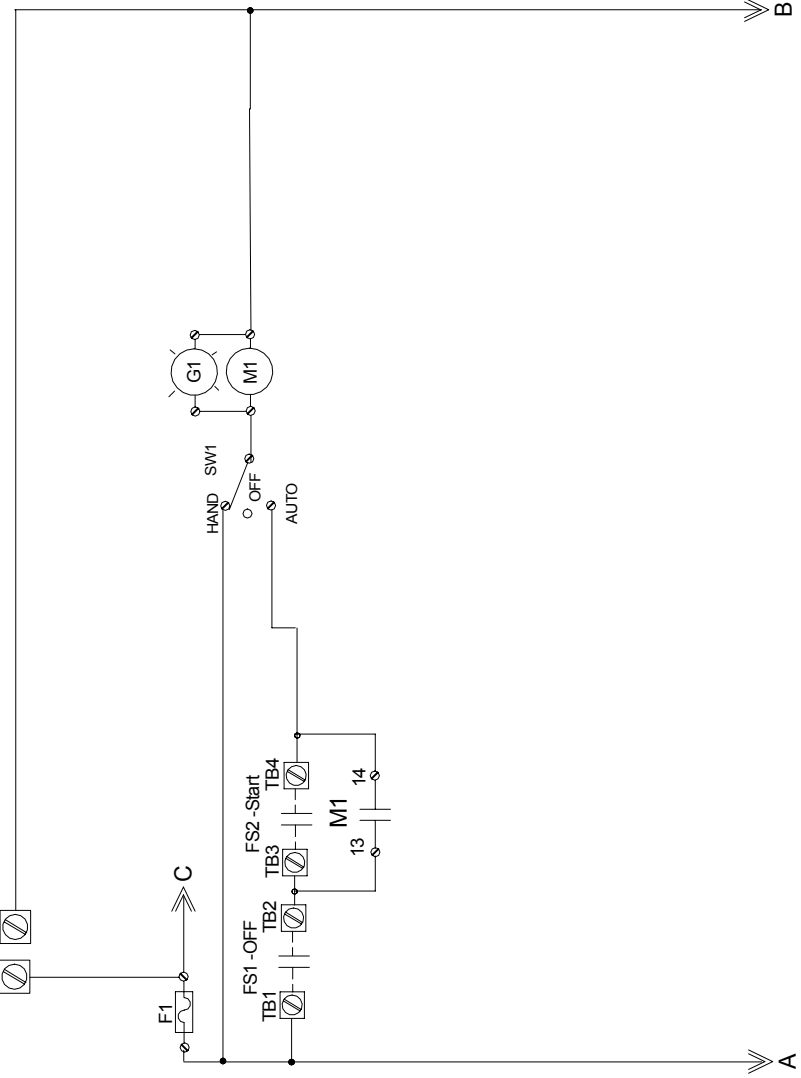
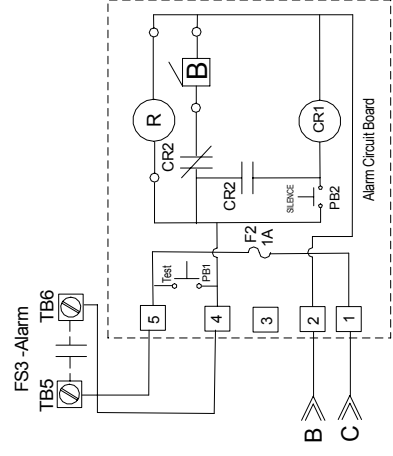
NOTES: 1. WARNING! Electrical Shock Hazard! Disconnect power before servicing this product. A qualified service person must install and service this product according to applicable electrical and plumbing codes.
 2. Install in accordance with National Electric Code, NFPA 70. Seal all boxes, fittings and conduit with appropriate seal devices to prevent moisture and gases from entering enclosure.
 3. Connect all grounds to a good ground. 4. Dashed lines represent field wiring - Use only 60 deg C Copper Wire

Incoming Power
 120/230VAC
 60HZ
 G L1 L2/N

Pump Load
 120/230 VAC, 0 - 20 Amps, 50/60 Hz
 Pumps must contain integral thermal overload protection



Alarm/Control Power 120VAC, 60HZ
 L1 N

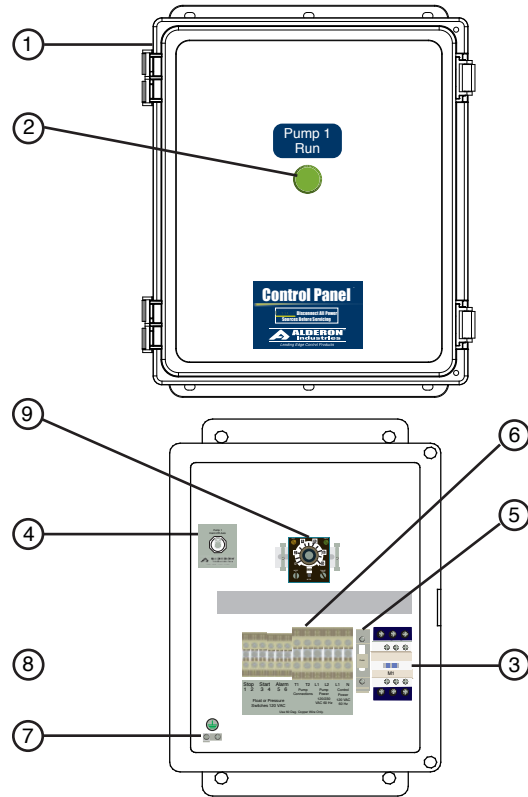


S10-MR

Single Phase Simplex/Nema 1/No Alarm

Description of Operation

The S10-MR is a NEMA 1 (Indoor rated) SINGLE PHASE SIMPLEX control panel that will operate a 115V, 208V, or 230V pump for water or wastewater applications. This panel operates with (2) float switches. An HOA switch is used to manually run the pump. A green pump run indicator is located on the front door of the panel and will indicate if the pump is running. A Minimum Run Timer will guarantee the pump will run for a set amount of time.



Electrical Ratings

- 1 Phase
- 0-20 Amps
- 120/208/230V
- 60 Hz.

External Components

- ① 10X8X6 NEMA1 Polyester Enclosure
- ② Pump Run Indicator

Features and Benefits

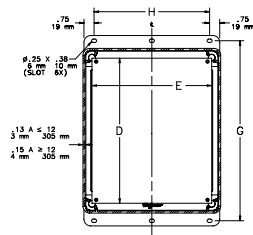
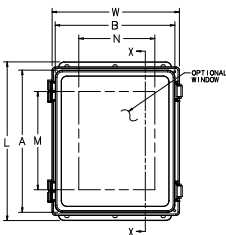
- Labeled terminal blocks for easy installation of floats or switches
- (Optional float switches)
- 1 Year Warranty

Internal Components

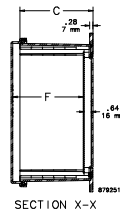
- ③ IEC Motor Contactor
- ④ HOA Switch
- ⑤ Fuse (1 amp)
- ⑥ Terminal Blocks
- ⑦ Ground Lug
- ⑧ UL Listed
- ⑨ Minimum Run Timer

Standard Sizes PolyPro Type I Polyester Enclosures

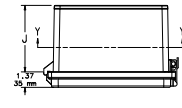
Enclosure Catalog Number		Enclosure Size A x B x C in. (mm)	Aluminum Panel Catalog Number	Panel Size D X E in. (mm)	F in. (mm)	G in. (mm)	H in. (mm)	J in. (mm)	L in. (mm)	M ^b in. (mm)	N ^b in. (mm)	W in. (mm)
Solid Door	Window Door											
A1084PHC	A1084PHCW	10.12 x 8.12 x 4.38 (257 x 206 x 111)	A10P8AL	8.75 x 6.88 (222 x 175)	4.32 (110)	11.38 (289)	6.56 (167)	3.91 (99)	12.15 (309)	8.25 (210)	6.25 (159)	9.23 (234)



SECTION Y-Y



SECTION X-X

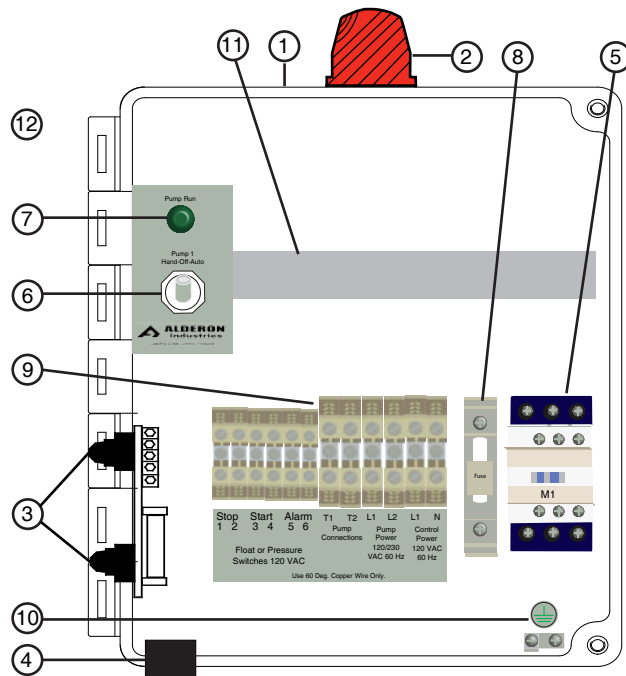


S10WLH

Single Phase Simplex-NEMA 4X

Description of Operation

The S10WLH is a NEMA 4X (outdoor rated) SINGLE PHASE SIMPLEX control panel that will operate a 115V, 208V, or 230V pump for water or wastewater applications. This panel operates with (3) float switches. An HOA switch is used to manually run the pump. A green pump run indicator will indicate if the pump is running. A red alarm beacon is located on top of the control panel. Test and Silence switches are located on the bottom left side of the control panel. Use the Test switch to test the system alarm and use the silence to stop the alarm buzzer (the beacon will remain on). When the high liquid level is cleared, the alarm will automatically reset.



Electrical Ratings

- 1 Phase
- 0-20 Amps
- 120/208/230V
- 60 Hz.

External Components

- ① 10X8X6 Padlockable NEMA 4X Fiberglass
- ② Moisture Tight Beacon
- ③ Test/Silence Switches
- ④ Alarm Buzzer (95dB)

Internal Components

- ⑤ IEC Motor Contactor
- ⑥ HOA Switch
- ⑦ Pump Run Indicator
- ⑧ Fuse (1 amp)
- ⑨ Terminal Blocks
- ⑩ Ground Lug
- ⑪ Wire Duct

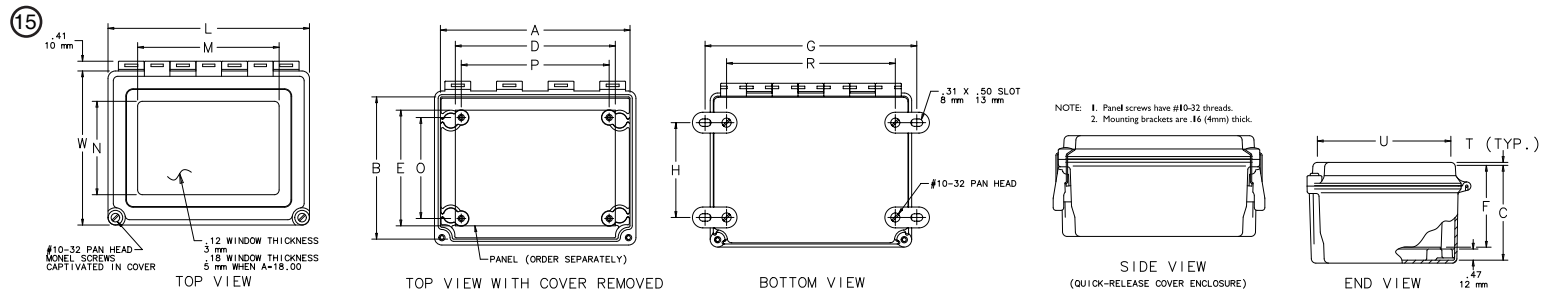
Features and Benefits

- Separate alarm & control fuses
- Alarm auto reset
- Labeled terminal blocks for easy installation of floats or switches
- (Optional float switches)
- 1 Year Warranty

⑫ UL Listed

Standard Sizes Fiberglass Hinged Solid Cover Type 4X Enclosures

Catalog Number	A x B x C in. (mm)	Type	Panel Catalog Number?	Panel Size D x E in. (mm)	Mounting G x H in. (mm)	Overall L x W in. (mm)	F in. (mm)	J in. (mm)	K in. (mm)	O in. (mm)	P in. (mm)	Q in. (mm)	R in. (mm)	T in. (mm)	U in. (mm)
A1086CHQRFG	10.00 x 8.00 x 6.00 (254 x 203 x 152)	Quick-Release	A10P8 A10P8AL	8.75 x 6.88 (222 x 175)	10.94 x 6.00 (278 x 152)	10.50 x 8.50 (267 x 216)	5.45 (138)	4.94 (125)	1.31 (33)	6.25 (159)	8.25 (210)	9.61 (244)	9.12 (232)	0.12 (3)	7.61 (193)

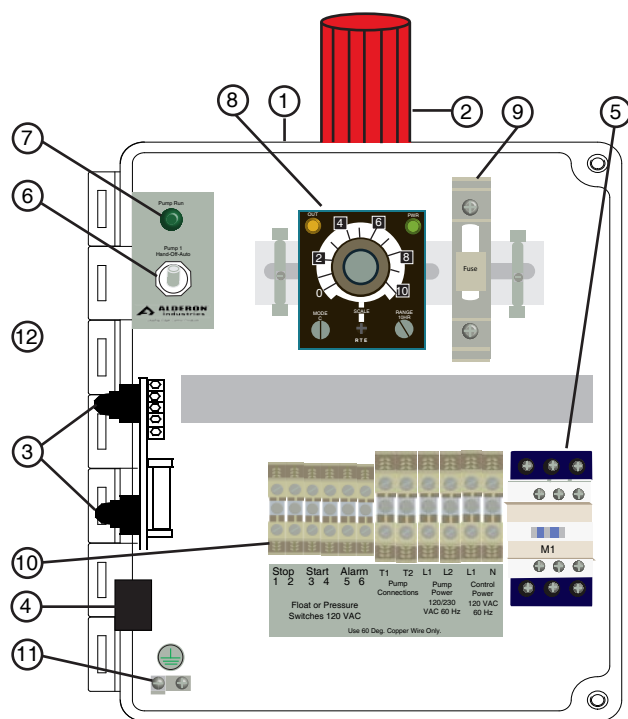


S10WLH-MR

Single Phase Simplex/Min. Run Timer

Description of Operation

The S10WLH-MR is a NEMA 4X (outdoor rated) SINGLE PHASE SIMPLEX control panel that will operate a 115V, 208V, or 230V pump for water or wastewater applications. This panel operates with (3) float switches. An HOA switch is used to manually run the pump. A green pump run indicator will indicate if the pump is running. A red alarm beacon is located on top of the control panel. Test and Silence switches are located on the bottom left side of the control panel. Use the Test switch to test the system alarm and use the silence to stop the alarm horn (the beacon will remain on). When the high liquid level is cleared, the alarm will automatically reset.



Electrical Ratings

- 1 Phase
- 0-20 Amps
- 120/208/230V
- 60 Hz.

External Components

- ① 10X8X6 Padlockable NEMA 4X Fiberglass
- ② Moisture Tight Beacon
- ③ Test/Silence Switches
- ④ Alarm Buzzer (95dB)

Internal Components

- ⑤ IEC Motor Contactor
- ⑥ HOA Switch
- ⑦ Pump Run Indicator
- ⑧ Minimum Run Timer
- ⑨ Fuse (1 amp)
- ⑩ Terminal Blocks
- ⑪ Ground Lug

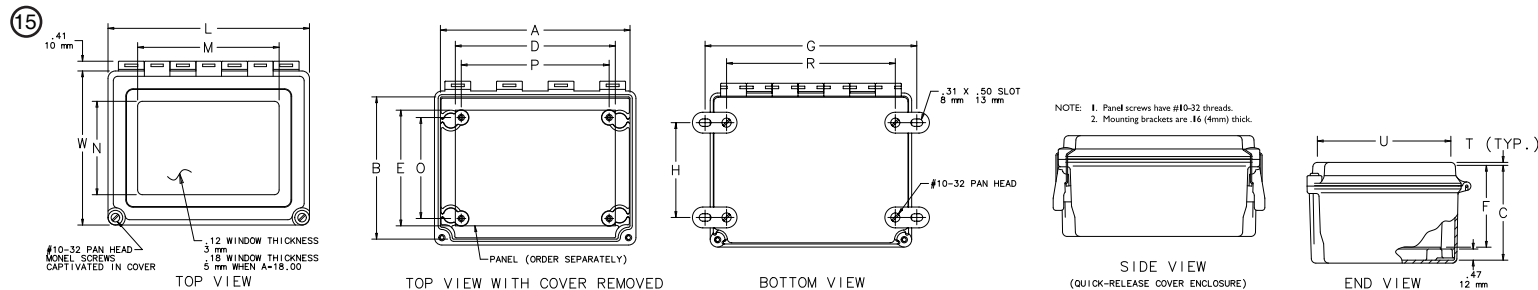
Features and Benefits

- Separate alarm & control fuses
- Alarm auto reset
- Labeled terminal blocks for easy installation of floats or switches
- (Optional float switches)
- 1 Year Warranty

⑫ UL Listed

Standard Sizes Fiberglass Hinged Solid Cover Type 4X Enclosures

Catalog Number	A x B x C in. (mm)	Type	Panel Catalog Number?	Panel Size D x E in. (mm)	Mounting G x H in. (mm)	Overall L x W in. (mm)	F in. (mm)	J in. (mm)	K in. (mm)	O in. (mm)	P in. (mm)	Q in. (mm)	R in. (mm)	T in. (mm)	U in. (mm)
A1086CHQRFG	10.00 x 8.00 x 6.00 (254 x 203 x 152)	Quick-Release	A10P8 A10P8AL	8.75 x 6.88 (222 x 175)	10.94 x 6.00 (278 x 152)	10.50 x 8.50 (267 x 216)	5.45 (138)	4.94 (125)	1.31 (33)	6.25 (159)	8.25 (210)	9.61 (244)	9.12 (232)	0.12 (3)	7.61 (193)





Phone 925.754.5686 Fax 925.754.5691
 Email Sales@TomikoInc.com
 PO Box 8056, Pittsburg, CA 94565

DWG # S10WLH-MR REV: A
 DATE: 11/28/07 SHEET: 1 OF 1

TITLE: S10WLH-MR

Quelle: QXXXX

DRAWN BY: B. Klabunde

LINE VOLTAGE: 120/230
PHASE: 1
HERTZ: 60

AWG. OR CIRCULAR MILL SIZE	TIGHTENING TORQUE IN INCH POUNDS	EXTERNAL DRIVE SCREW DRIVER	WRENCH
14	35		75
12	35		75
10	35		75
8	40		75
6	45		110
4	45		110
2	50		150
1	50		180
1/0	50		180
2/0	50		180

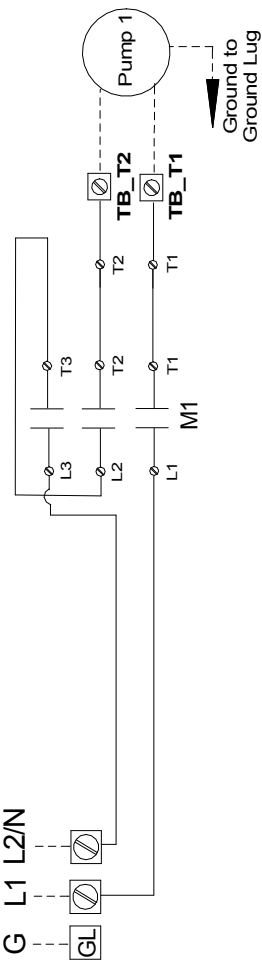
FIELD WIRING TERMINAL BLOCK

1 F1 & F2 FUSES MUST BE REPLACED WITH 1 AMP TYPE AGC FAST ACTING 250 V MAX.

CR	Control Relay
SW1	HOA Sw itch
G1	Pump Run Indicator
M1	Magnetic Contactor
GL	Ground Lug
CB1	Circuit Breaker
R	Alarm Indicator
B	Alarm Buzzer
PB	Push Button
TMR	Minimum Run Timer

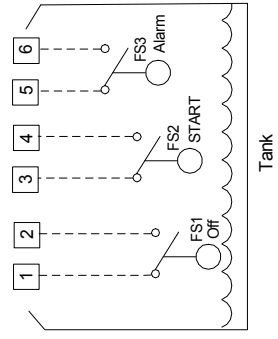
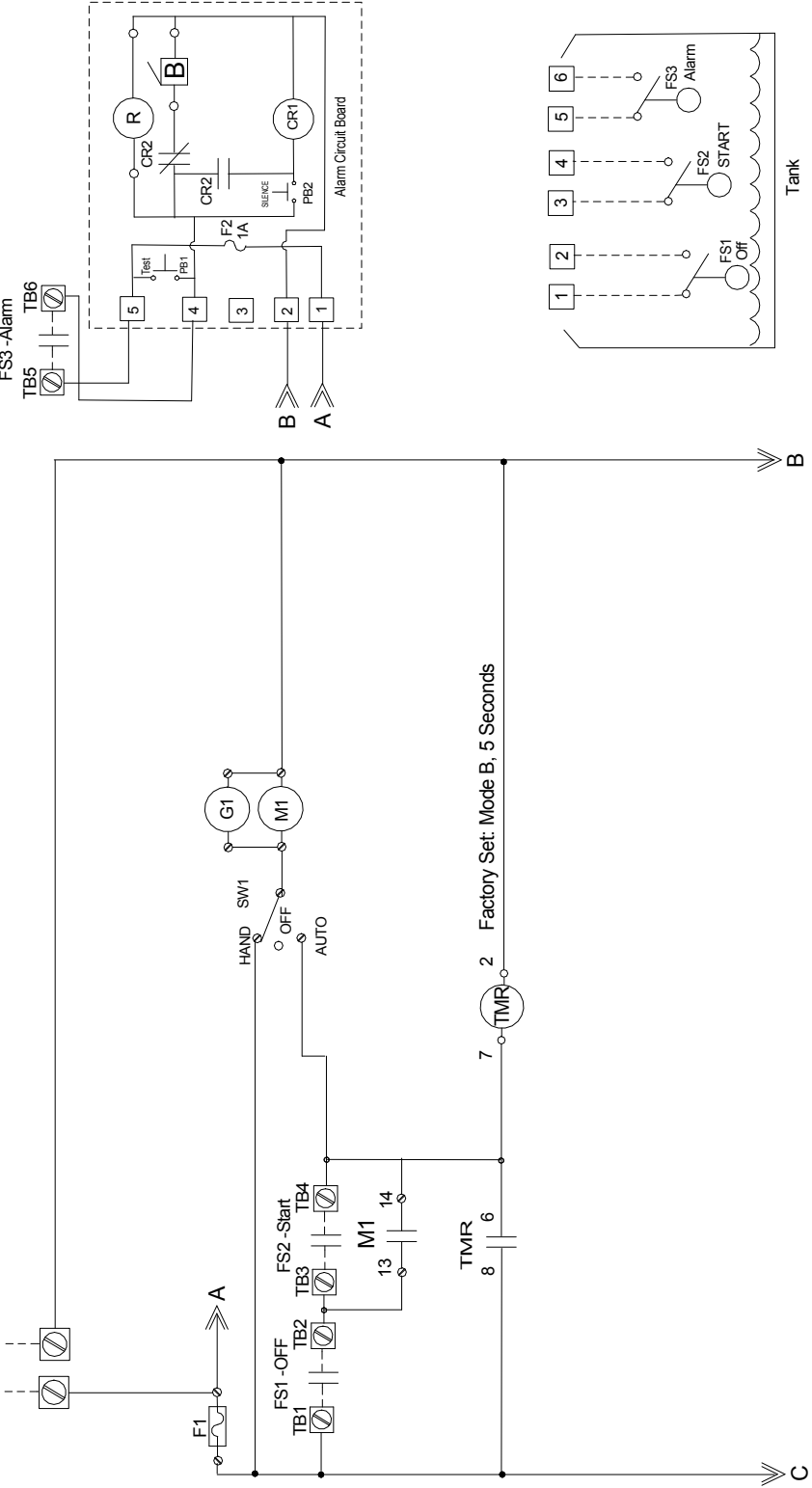
NOTES: 1. WARNING! Electrical Shock Hazard! Disconnect power before servicing this product. A qualified service person must install and service this product according to applicable electrical and plumbing codes.
 2. Install in accordance with National Electric Code, NFPA 70, Seal all boxes, fittings and conduit with appropriate seal devices to prevent moisture and gases from entering enclosure.
 3. Connect all grounds to a good ground. 4. Dashed lines represent field wiring - Use only 60 deg C Copper Wire

Incoming Power
 120/230VAC
 60HZ
 G L1 L2/N



Pump Load
 120/230 VAC, 0 - 20 Amps, 50/60 Hz
 Pumps must contain integral thermal overload protection

Alarm/Control Power 120VAC, 60HZ
 L1 N

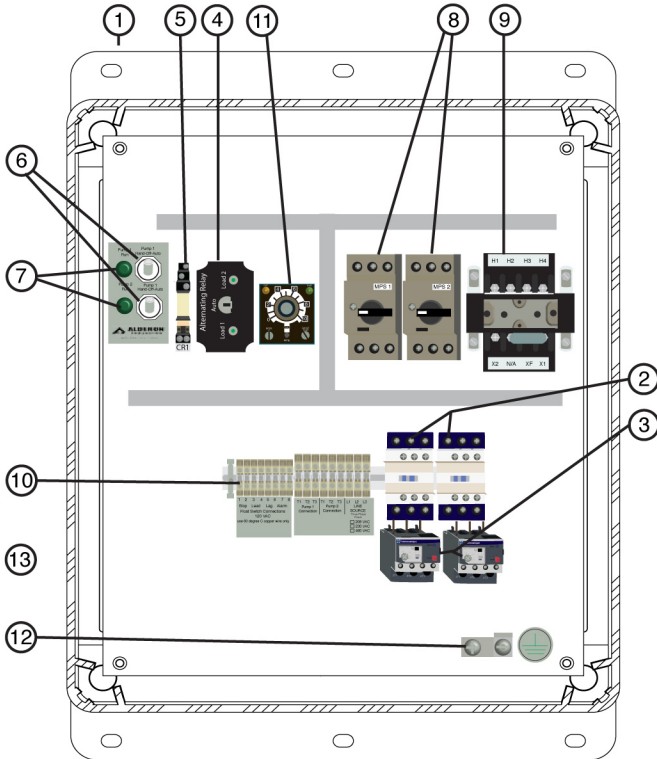


D32-MR

Three Phase Duplex /NEMA 1/Min Run Timer

Description of Operation

The D32-MR is a NEMA 1 (indoor rated) Three Phase Duplex control panel used for water and wastewater applications. The panel operates 208/230/460 VAC pumps. It includes pump overload relays to shut down the system if a pump overloads. (2) float switches can be used to operate this control panel. HOA switches provide manual pump control. Green pump run indicators are located inside of the control panel and will indicate if a pump is running. Motor protective switches will shut off the pumps when the amp draw exceeds the setting on the Motor protective switch. A Minimum Run Timer will guarantee the pump will run for a set amount of time.



Electrical Ratings

- 3 Phase
- 208/230/460V
- 5-23 Amps
- 60 Hz.

External Components

- ① 18X16X10 Padlockable NEMA 1 Thermoplastic

Internal Components

- ② IEC Motor Contactors
- ③ Overload Relays (5-23amps)
- ④ Alternating Relay
- ⑤ Control Relay
- ⑥ HOA Switches
- ⑦ Pump Run Indicators
- ⑧ Motor Protective Switches

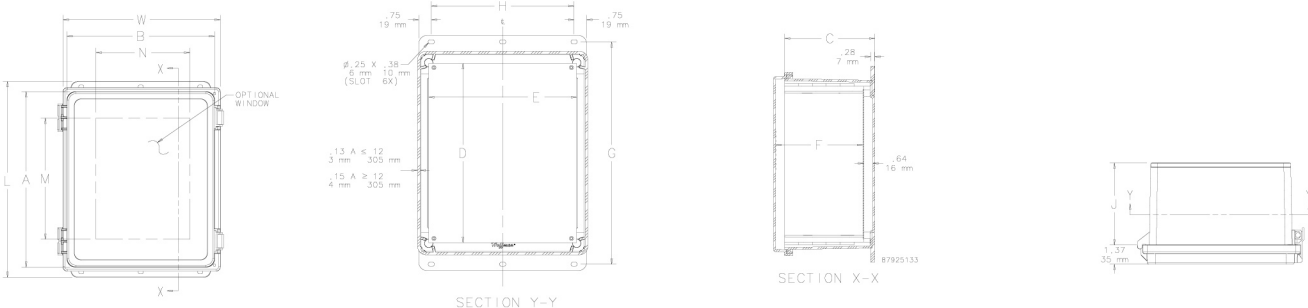
Features and Benefits

- Separate alarm & control fuses
- Alarm auto reset
- Load selector switch
- Labeled terminal blocks for easy installation of floats or switches
- (Optional float switches)
- 1 Year Warranty

- ⑨ Transformer
- ⑩ Terminal Blocks
- ⑪ Minimum Run Timer
- ⑫ Ground Lug
- ⑬ UL Listed

Standard Sizes PolyPro Type 4X Polyester Enclosures

Enclosure Catalog Number		Enclosure Size A x B x C in. (mm)	Aluminum Panel Catalog Number ^P	Panel Size D X E in. (mm)	F in. (mm)	G in. (mm)	H in. (mm)	J in. (mm)	L in. (mm)	M ^b in. (mm)	N ^b in. (mm)	W in. (mm)
Solid Door	Window Door											
A181610PHC	A181610PHCW	17.95 x 15.94 x 10.35 (456 x 405 x 263)	A18P16AL	16.75 x 14.88 (425 x 378)	10.27 (261)	19.20 (488)	14.56 (370)	9.91 (252)	19.97 (507)	16.25 (413)	14.25 (362)	17.32 (440)



LINE VOLTAGE: 208/230/460
 PHASE: 3
 HERTZ: 60

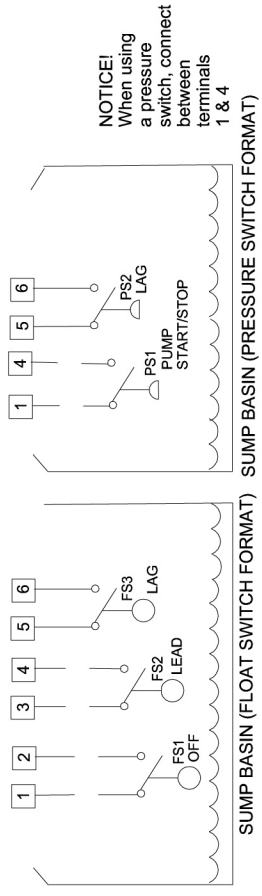
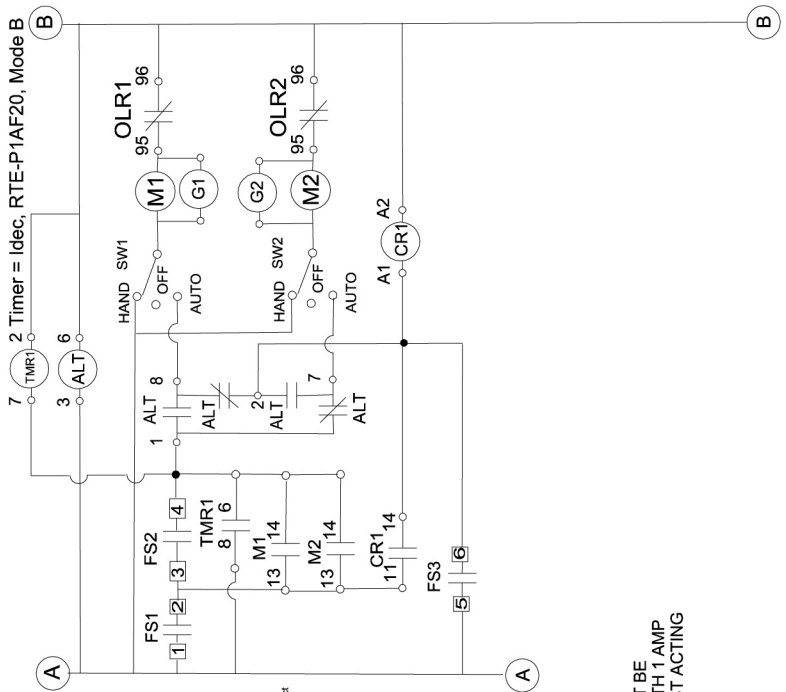
NO.:	DATE:	REVISIONS:
CHECKED BY: DB	DATE: 7/13/2012	QUOTE NO. 1
DRAWN BY: XX	DATE:	DESCRIPTION:
D32-MR		

SHEET DESCRIPTION:
 PROJECT #: D32-MR
 PRODUCTION SCHEMATIC

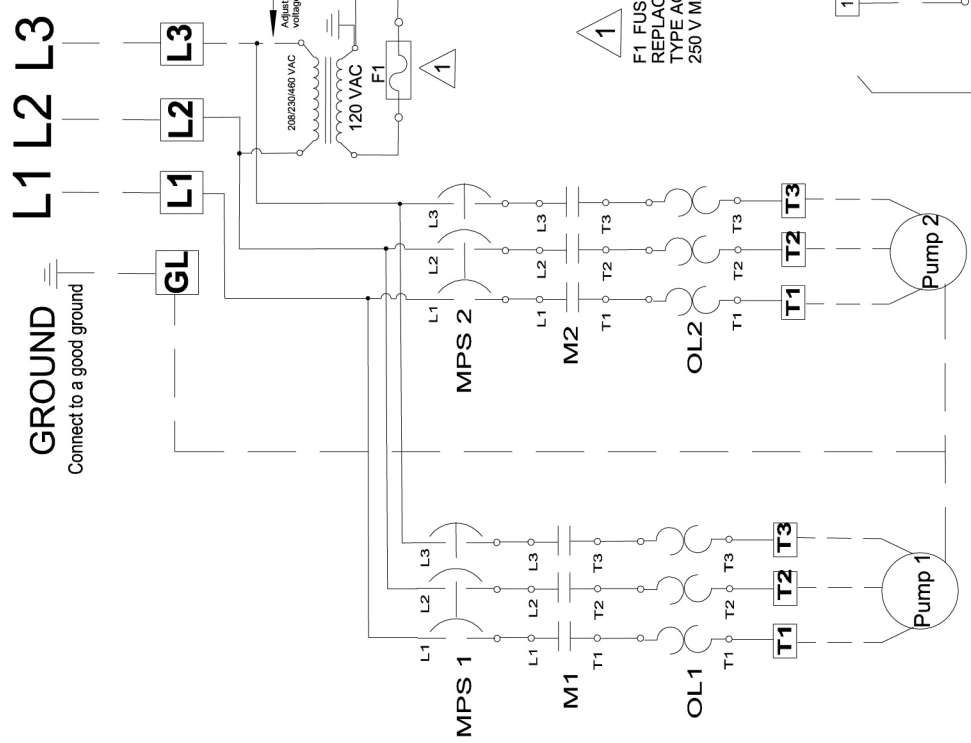
--- FIELD WIRING
 FIELD SUPPLIED
 TERMINAL BLOCK

AWG/ OR CIRCULAR MILL SIZE	TIGHTENING TORQUE IN INCH POUNDS	
	SCREW DRIVER	EXTERNAL DRIVE WRENCH
14	35	75
12	35	75
10	35	75
8	40	75
6	45	110
4	45	110
2	50	150
1	50	150
1/0	50	180
2/0	50	180

LEGEND	
CR	CONTROL RELAY
PB	PUSH BUTTON SWITCH
ALT	ALTERNATING RELAY
FS	FLOAT SWITCH
SW	HAND, OFF, AUTO SWITCH
F	FUSE
G1.2	PUMP RUN INDICATOR
MPS	MOTOR PROTECTIVE SWITCH
M	MAGNETIC CONTACTOR
GL	GROUND LUG
TMR1	MIN. RUN TIMER (MODE B)



NOTICE:
 When using a pressure switch, connect terminals 1 & 4



Pump Loads
 208/230/460 VAC 5-23 Amps
 ADJUST OVERLOAD RELAY TO ACTUAL FULL LOAD AMPS OF THE MOTOR

F1 FUSE MUST BE REPLACED WITH 1 AMP TYPE AGC FAST ACTING 250 V MAX.

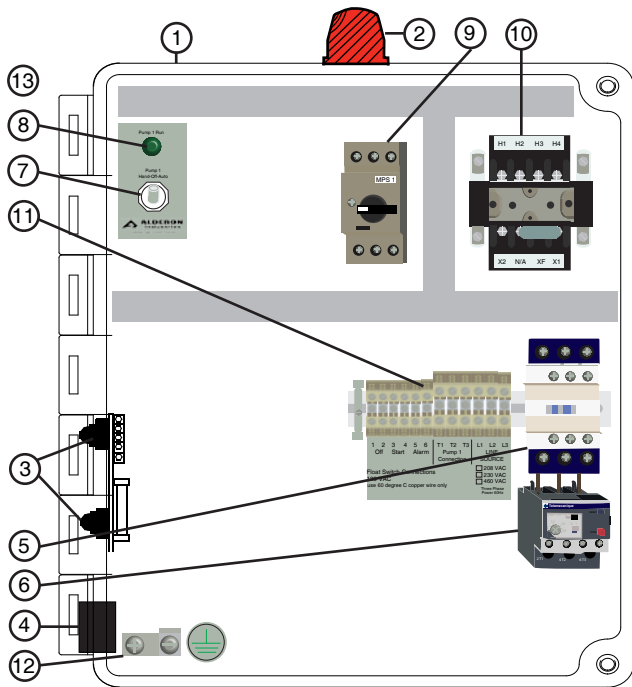
NOTES:
 1. WARNING! Electrical Shock Hazard! Disconnect power before servicing this product. A qualified service person must install and service this product according to applicable electrical and plumbing codes.
 2. Install in accordance with National Electric Code, NFPA 70. Seal all boxes, fittings and conduit with appropriate seal devices to prevent moisture and gases from entering enclosure.
 3. Connect all grounds to a good ground. 4. Dashed lines represent field wiring - Use only 60 deg C Copper Wire 5. Branch Circuit Protection Device/Disconnect Means Field Provided.

S32WLH

Three Phase Simplex/ NEMA 4X/Alarm

Description of Operation

The S32WLH is a NEMA 4X (outdoor rated) Three Phase Simplex control panel used for water and wastewater applications. The panel operates 208/230/460 VAC pumps. It includes a pump overload relay to shut down the system if the pump overloads. (3) float switches can be used to operate this control panel. An HOA switch provides manual pump control. A green pump run indicator is located inside of the control panel and will indicate if the pump is running. A red alarm beacon and alarm buzzer are located on the outside of the control panel. The motor protective switch will shut off the pump when the amp draw exceeds the setting on the Motor protective switch.



Electrical Ratings

- 3 Phase
- 208/230/460V
- 5-23 Amps
- 60 Hz.

Features and Benefits

- Separate alarm & control fuses
- Alarm auto reset
- Labeled terminal blocks for easy installation of floats or switches
- (Optional float switches)
- 1 Year Warranty

External Components

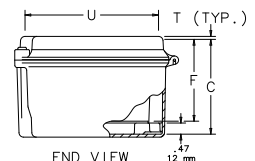
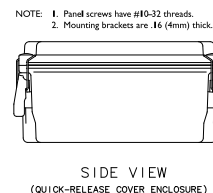
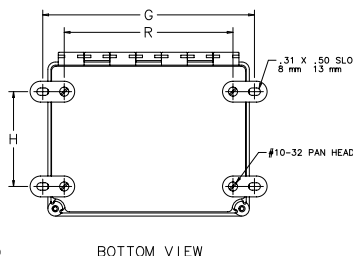
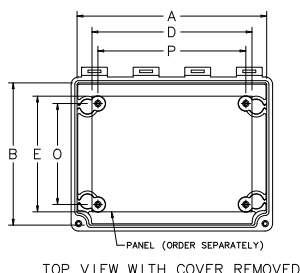
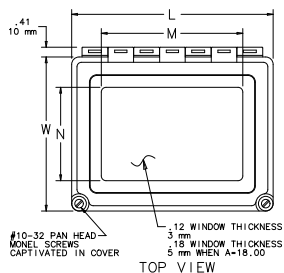
- ① 16X14X8 Padlockable NEMA 4X Fiberglass
- ② Moisture Tight Beacon
- ③ Test/Silence Switches
- ④ Alarm Buzzer (95dB)

Internal Components

- ⑤ IEC Motor Contactors
- ⑥ Overload Relays (5-23amps)
- ⑦ HOA Switch
- ⑧ Pump Run Indicator
- ⑨ Motor Protective Switch
- ⑩ Transformer
- ⑪ Terminal Blocks
- ⑫ Ground Lug
- ⑬ UL Listed

Standard Sizes Fiberglass Hinged Solid Cover Type 4X Enclosures

Catalog Number	A x B x C in. (mm)	Type	Panel Catalog Number ¹	Panel Size D x E in. (mm)	Mounting G x H in. (mm)	Overall L x W in. (mm)	F in. (mm)	J in. (mm)	K in. (mm)	O in. (mm)	P in. (mm)	Q in. (mm)	R in. (mm)	T in. (mm)	U in. (mm)
A16148CHQRFG	16.00 x 14.00 x 8.00 (406 x 356 x 203)	Quick-Release	A16P14 A16P14AL	14.75 x 12.88 (375 x 327)	16.94 x 12.00 (430 x 305)	16.55 x 14.55 (420 x 370)	7.45 (189)	6.23 (158)	2.08 (53)	12.25 (311)	14.25 (362)	15.56 (395)	15.12 (384)	0.15 (4)	13.56 (344)



S32WLH-MR

Three Phase Simplex/Minimum Run Timer

Description of Operation

The S32WLH-MR is a NEMA 4X (outdoor rated) Three Phase Simplex control panel used for water and wastewater applications. The panel operates 208/230/460 VAC pumps. It includes a pump overload relay to shut down the system if the pump overloads. (3) float switches can be used to operate this control panel. An HOA switch provides manual pump control. A green pump run indicator is located inside of the control panel and will indicate if the pump is running. A red alarm beacon and alarm buzzer are located on the outside of the control panel. The motor protective switch will shut off the pump when the amp draw exceeds the setting on the Motor protective switch. A Minimum Run Timer will guarantee the pump will run for a set amount of time.

Electrical Ratings

- 3 Phase
- 5-23 Amps
- 208/230/460V
- 60 Hz.

Features and Benefits

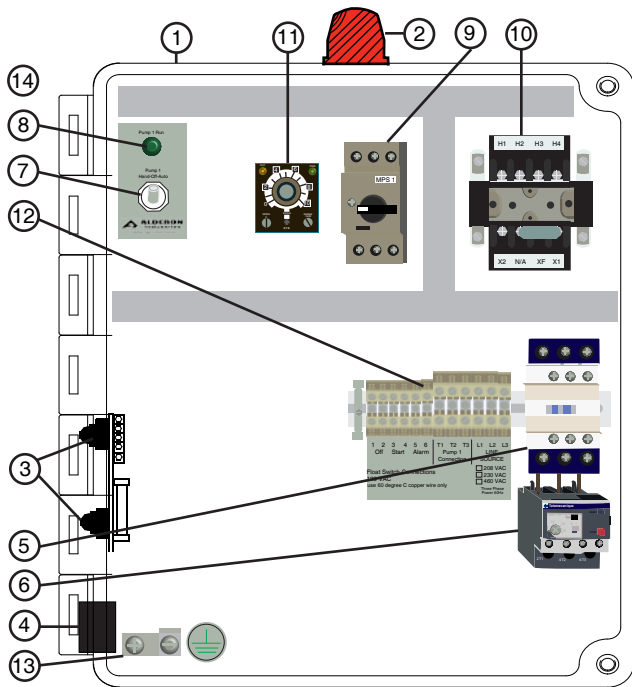
- Separate alarm & control fuses
- Alarm auto reset
- Labeled terminal blocks for easy installation of floats or switches
- (Optional float switches)
- 1 Year Warranty

External Components

- ① 16X14X8 Padlockable NEMA 4X Fiberglass
- ② Moisture Tight Beacon
- ③ Test/Silence Switches
- ④ Alarm Buzzer (95dB)

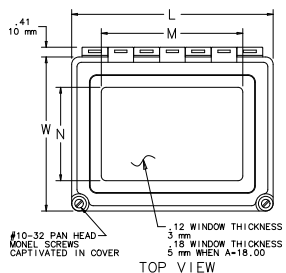
Internal Components

- ⑤ IEC Motor Contactors
- ⑥ Overload Relays (5-23amps)
- ⑦ HOA Switch
- ⑧ Pump Run Indicator
- ⑨ Motor Protective Switch
- ⑩ Transformer
- ⑪ Minimum Run Timer
- ⑫ Terminal Blocks
- ⑬ Ground Lug
- ⑭ UL Listed

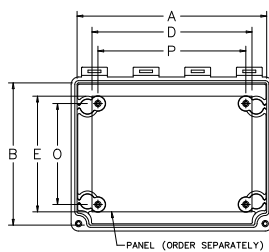


Standard Sizes Fiberglass Hinged Solid Cover Type 4X Enclosures

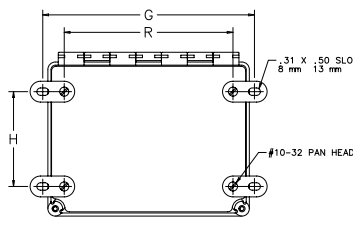
Catalog Number	A x B x C in. (mm)	Type	Panel Catalog Number ¹	Panel Size D x E in. (mm)	Mounting G x H in. (mm)	Overall L x W in. (mm)	F in. (mm)	J in. (mm)	K in. (mm)	O in. (mm)	P in. (mm)	Q in. (mm)	R in. (mm)	T in. (mm)	U in. (mm)
A16148CHQRFG	16.00 x 14.00 x 8.00 (406 x 356 x 203)	Quick-Release	A16P14 A16P14AL	14.75 x 12.88 (375 x 327)	16.94 x 12.00 (430 x 305)	16.55 x 14.55 (420 x 370)	7.45 (189)	6.23 (158)	2.08 (53)	12.25 (311)	14.25 (362)	15.56 (395)	15.12 (384)	0.15 (4)	13.56 (344)



TOP VIEW

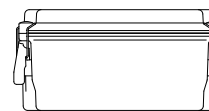


TOP VIEW WITH COVER REMOVED

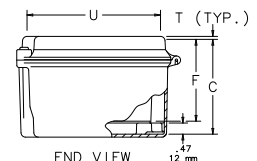


BOTTOM VIEW

NOTE: 1. Panel screws have #10-32 threads.
2. Mounting brackets are .16 (4mm) thick.



SIDE VIEW
(QUICK-RELEASE COVER ENCLOSURE)



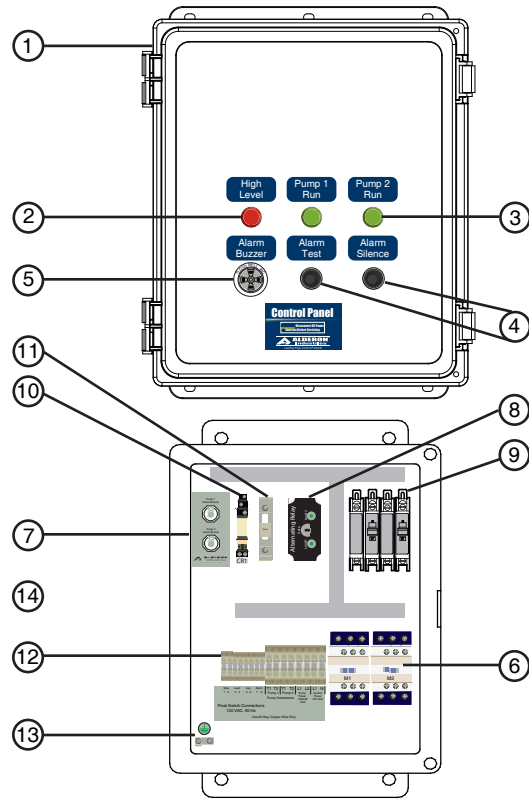
END VIEW

D10LH

Single Phase Duplex/Nema 1/Alarm

Description of Operation

The D10LH is a NEMA 1 (indoor rated) SINGLE PHASE DUPLEX control panel that will operate a 115V, 208V, or 230V pump for water or wastewater applications. This panel operates with (3) or (4) float switches. HOA switches are used to manually run the pumps. Green pump run indicators are located on the front door of the panel and will indicate if a pump is running. Red alarm indicators are located on the front door of the control panel. Test and Silence switches are also located on the front of the control panel. Use the test switch to test the system alarm and use the silence switch to stop the alarm buzzer. (the indicator will remain on). When the high liquid level is cleared, the alarm will automatically reset.



Electrical Ratings

- 1 Phase
- 0-20 Amps
- 120/208/230V
- 60 Hz.

Features and Benefits

- Labeled terminal blocks for easy installation of floats or switches
- (Optional float switches)
- 1 Year Warranty

External Components

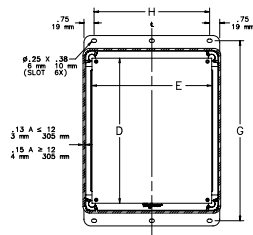
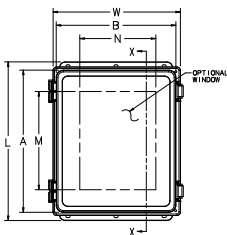
- ① 14X12X8 NEMA 1 Polyester Enclosure
- ② High Alarm Indicator
- ③ Pump Run Indicator
- ④ Test/Silence Switches
- ⑤ Alarm Buzzer (95dB)

Internal Components

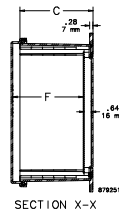
- ⑥ IEC Motor Contactors
- ⑦ HOA Switches
- ⑧ Alternating Relay
- ⑨ Pump Circuit Breakers
- ⑩ Control Relay
- ⑪ Fuse (1 amp)
- ⑫ Terminal Blocks
- ⑬ Ground Lug
- ⑭ UL Listed

Standard Sizes PolyPro Type 1 Polyester Enclosures

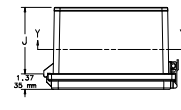
Enclosure Catalog Number		Enclosure Size A x B x C in. (mm)	Aluminum Panel Catalog Number	Panel Size D X E in. (mm)	F in. (mm)	G in. (mm)	H in. (mm)	J in. (mm)	L in. (mm)	M ^b in. (mm)	N ^b in. (mm)	W in. (mm)
Solid Door	Window Door											
A14128PHC	A14128PHCW	14.02 x 12.01 x 8.35 (356 x 305 x 212)	A14P12AL	12.75 x 10.88 (324 x 276)	8.27 (210)	15.27 (388)	10.56 (268)	7.91 (201)	16.04 (407)	12.25 (311)	10.25 (260)	13.32 (389)



SECTION Y-Y



SECTION X-X





Phone 925.754.5686 Fax 925.754.5691
 Email Sales@Tornikolinc.com
 PO Box 8056, Pittsburg, CA 94565

DWG # D10LH REV: A
 DATE: 10/02/07 SHEET: 1 OF 1

TITLE: Single Phase Duplex

DRAWN BY: B. Klabunde

LINE VOLTAGE: 120/230
PHASE: 1
HERTZ: 60

AWG. OR CIRCULAR MILL SIZE	TIGHTENING TORQUE IN INCH POUNDS	EXTERNAL DRIVE
14	35	75
12	35	75
10	35	75
8	40	75
6	45	110
4	45	110
2	50	150
1	50	150
1/0	50	180
2/0	50	180

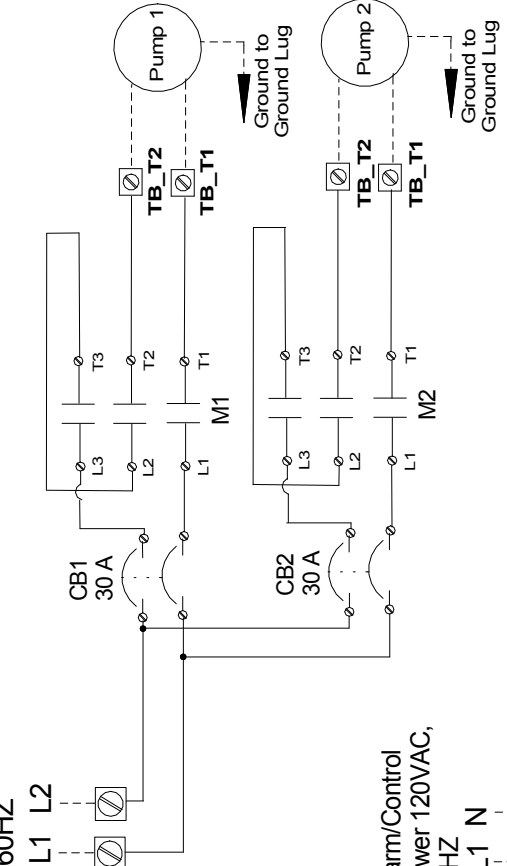
FIELD WIRING TERMINAL BLOCK

1 F1 & F2 FUSES MUST BE REPLACED WITH 1 AMP TYPE AGC FAST ACTING 250 V MAX.

CR	Control Relay
SW1,2	HOA Sw itch
G1,2	Pump Run Indicator
M1,2	Magnetic Contactor
GL	Ground Lug
CB1,2	Circuit Breaker
ALT	Alternating Relay
R	Alarm Indicator
B	Alarm Buzzer
PB	Push Button

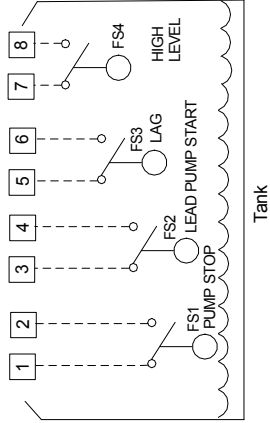
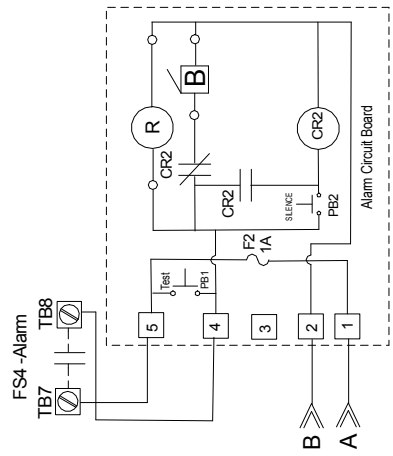
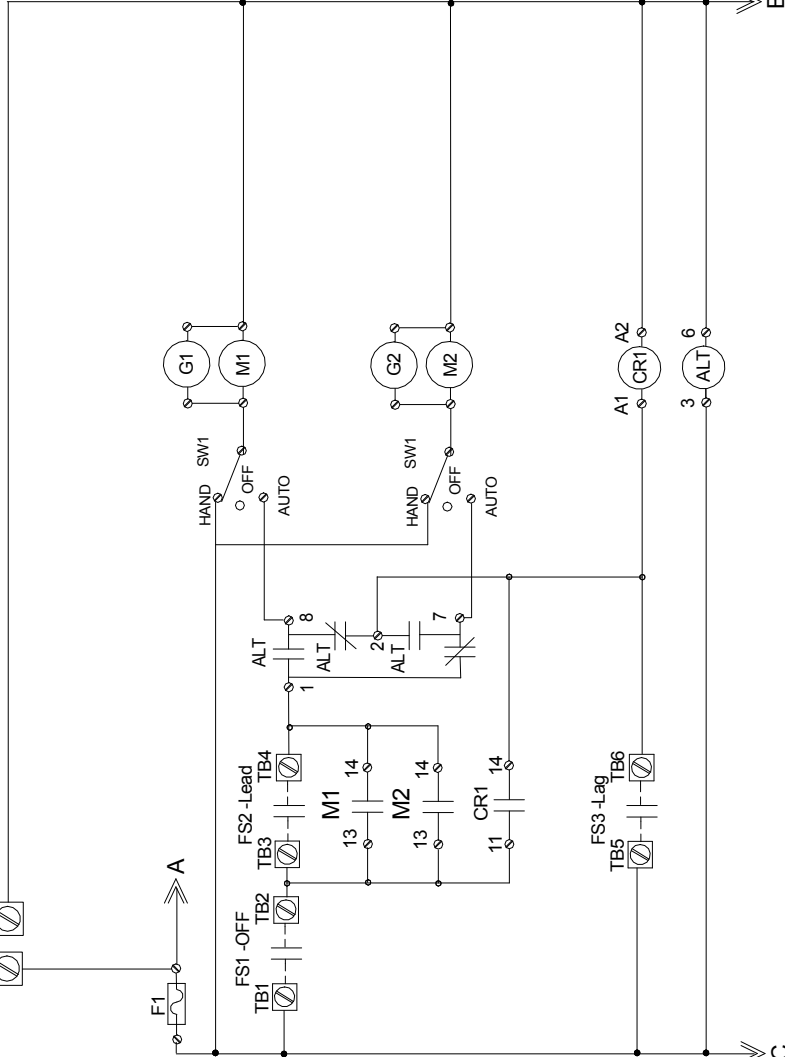
NOTES: 1. WARNING! Electrical Shock Hazard! Disconnect power before servicing this product. A qualified service person must install and service this product according to applicable electrical and plumbing codes.
 2. Install in accordance with National Electric Code, NFPA 70, Seal all boxes, fittings and conduit with appropriate seal devices to prevent moisture and gases from entering enclosure.
 3. Connect all grounds to a good ground. 4. Dashed lines represent field wiring. - Use only 60 deg C Copper Wire

Pump Power
 120/230VAC
 60HZ
 L1 L2



Pump Load
 120/230 VAC, 0 - 20 Amps, 50/60 Hz
 Pumps must contain integral thermal overload protection

Alarm/Control Power
 120VAC,
 60HZ
 L1 N

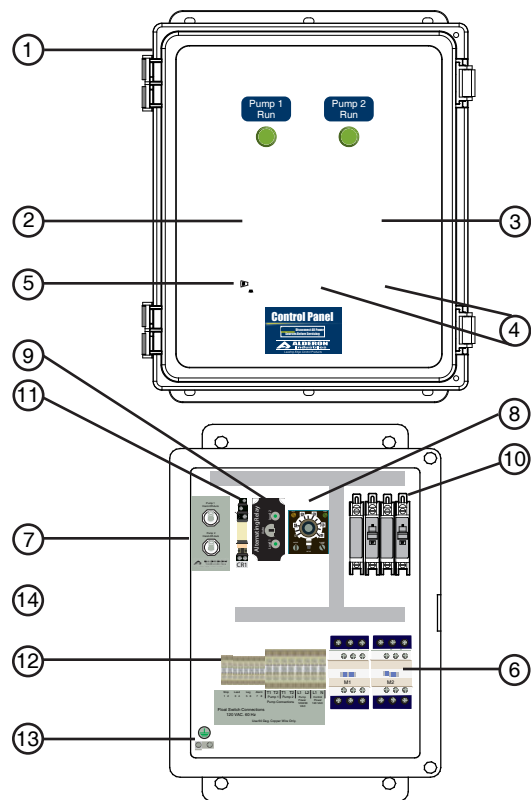


D10-MR

1 Phase Duplex/Nema 1/Min Run/No Alarm

Description of Operation

The D10-MR is a NEMA 1 (indoor rated) SINGLE PHASE DUPLEX control panel that will operate a 115V, 208V, or 230V pump for water or wastewater applications. This panel operates (3) float switches. HOA switches are used to manually run the pumps. A Minimum Run Timer will guarantee the pump will run for a set amount of time. Green pump run indicators are located on the front door of the panel and will indicate if a pump is running. A load selector switch is located on the alternating relay.



Electrical Ratings

- 1 Phase
- 0-20 Amps
- 120/208/230V
- 60 Hz.

Features and Benefits

- Labeled terminal blocks for easy installation of floats or switches
- Load Selector Switch
- (Optional float switches)
- 1 Year Warranty

External Components

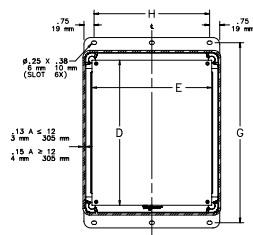
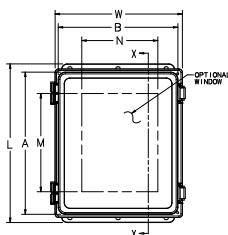
- ① 14X12X8 NEMA 1 Polyester Enclosure
- ② Pump Run Indicators

Internal Components

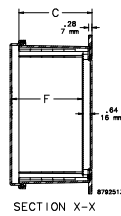
- ③ IEC Motor Contactors
- ④ HOA Switches
- ⑤ Alternating Relay
- ⑥ Minimum Run Timer
- ⑦ Pump Circuit Breakers
- ⑧ Control Relay
- ⑨ Terminal Blocks
- ⑩ Ground Lug
- ⑪ UL Listed

Standard Sizes PolyPro Type 1 Polyester Enclosures

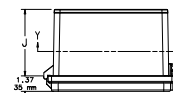
Enclosure Catalog Number		Enclosure Size A x B x C in. (mm)	Aluminum Panel Catalog Number	Panel Size D X E in. (mm)	F in. (mm)	G in. (mm)	H in. (mm)	J in. (mm)	L in. (mm)	M ^b in. (mm)	N ^b in. (mm)	W in. (mm)
Solid Door	Window Door											
A14128PHC	A14128PHCW	14.02 x 12.01 x 8.35 (356 x 305 x 212)	A14P12AL	12.75 x 10.88 (324 x 276)	8.27 (210)	15.27 (388)	10.56 (268)	7.91 (201)	16.04 (407)	12.25 (311)	10.25 (260)	13.32 (389)



SECTION Y-Y



SECTION X-X

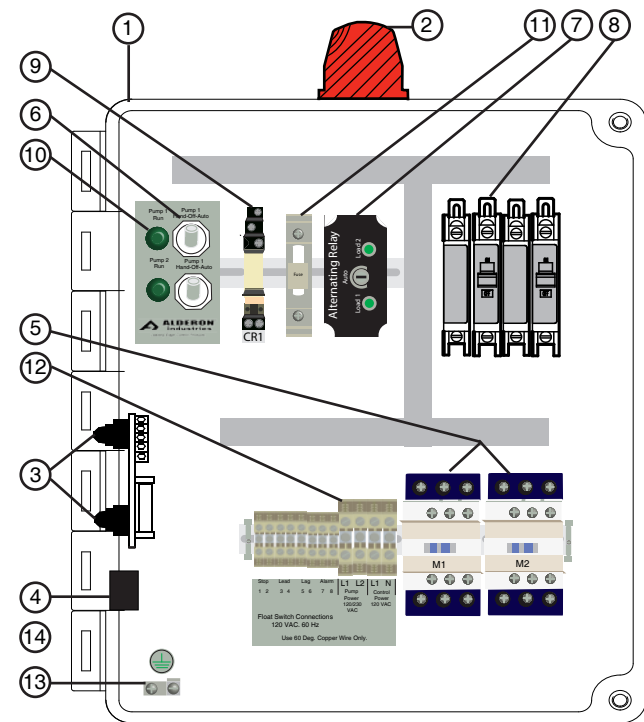


D10WLH

Single Phase Duplex/Nema 4X/Alarm

Description of Operation

The D10WLH is a NEMA 4X (outdoor rated) SINGLE PHASE DUPLEX control panel that will operate a 115V, 208V, or 230V pump for water or wastewater applications. This panel operates with (3) or (4) float switches. HOA switches are used to manually run the pumps. A load selector switch is located on the alternating relay. Green pump run indicators are located inside of the panel and will indicate if a pump is running. A red alarm beacon is located on top of the control panel. Test and Silence switches are also located on the bottom left side of the control panel. Use the test switch to test the system alarm and use the silence switch to stop the alarm buzzer. (the indicator will remain on). When the high liquid level is cleared, the alarm will automatically reset.



Electrical Ratings

- 1 Phase
- 0-20 Amps
- 120/208/230V
- 60 Hz.

External Components

- ① 14X12X8 Padlockable NEMA 4X Fiberglass
- ② High Alarm Beacon
- ③ Test/Silence Switches
- ④ Alarm Buzzer (95dB)

Internal Components

- ⑤ IEC Motor Contactors
- ⑥ HOA Switches
- ⑦ Alternating Relay
- ⑧ Pump Circuit Breakers
- ⑨ Control Relay
- ⑩ Pump Run Indicators
- ⑪ Fuse (1 amp)

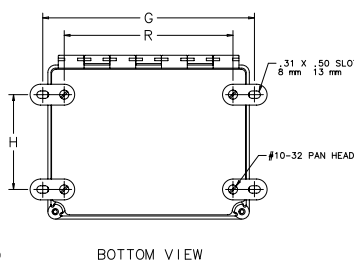
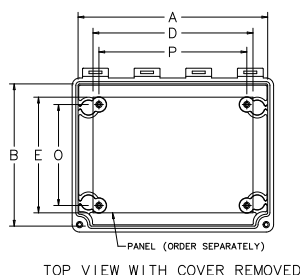
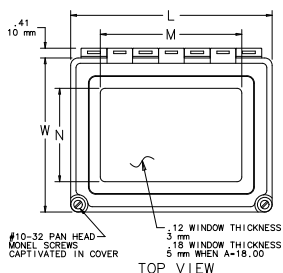
Features and Benefits

- Labeled terminal blocks for easy installation of floats or switches
- Load Selector Switch
- (Optional float switches)
- 1 Year Warranty

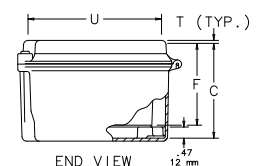
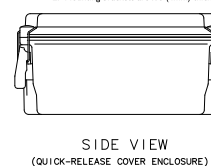
- ⑫ Terminal Blocks-
- ⑬ Ground Lug
- ⑭ UL Listed

Standard Sizes Fiberglass Hinged Solid Cover Type 4X Enclosures

Catalog Number	A x B x C in. (mm)	Type	Panel Catalog Number ¹	Panel Size D x E in. (mm)	Mounting G x H in. (mm)	Overall L x W in. (mm)	F in. (mm)	J in. (mm)	K in. (mm)	O in. (mm)	P in. (mm)	Q in. (mm)	R in. (mm)	T in. (mm)	U in. (mm)
A14128CHQRFG	14.00 x 12.00 x 8.00 (356 x 305 x 203)	Quick-Release	A14P12 A14P12AL	12.75 x 10.88 (324 x 276)	14.94 x 10.00 (379 x 254)	14.55 x 12.55 (370 x 319)	7.45 (189)	6.50 (165)	1.81 (46)	10.25 (260)	12.25 (311)	13.59 (345)	13.12 (333)	0.15 (4)	11.59 (294)

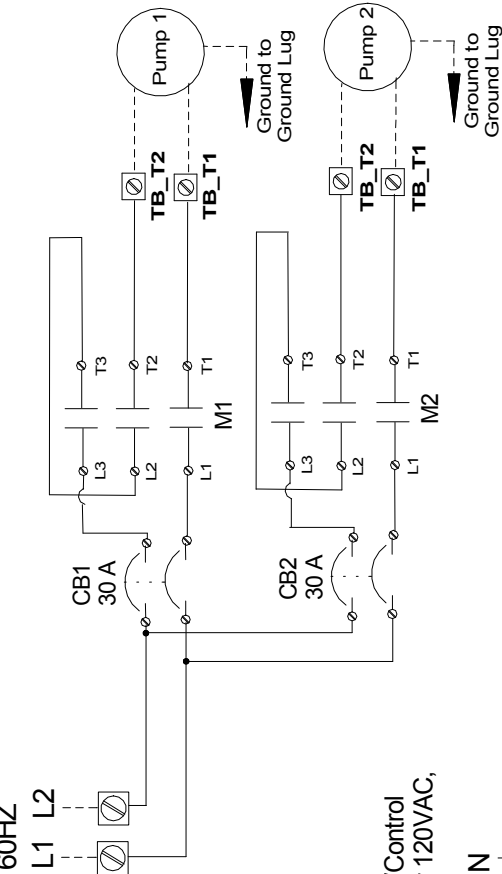


NOTE: 1. Panel screws have #10-32 threads.
2. Mounting brackets are .16 (4mm) thick.



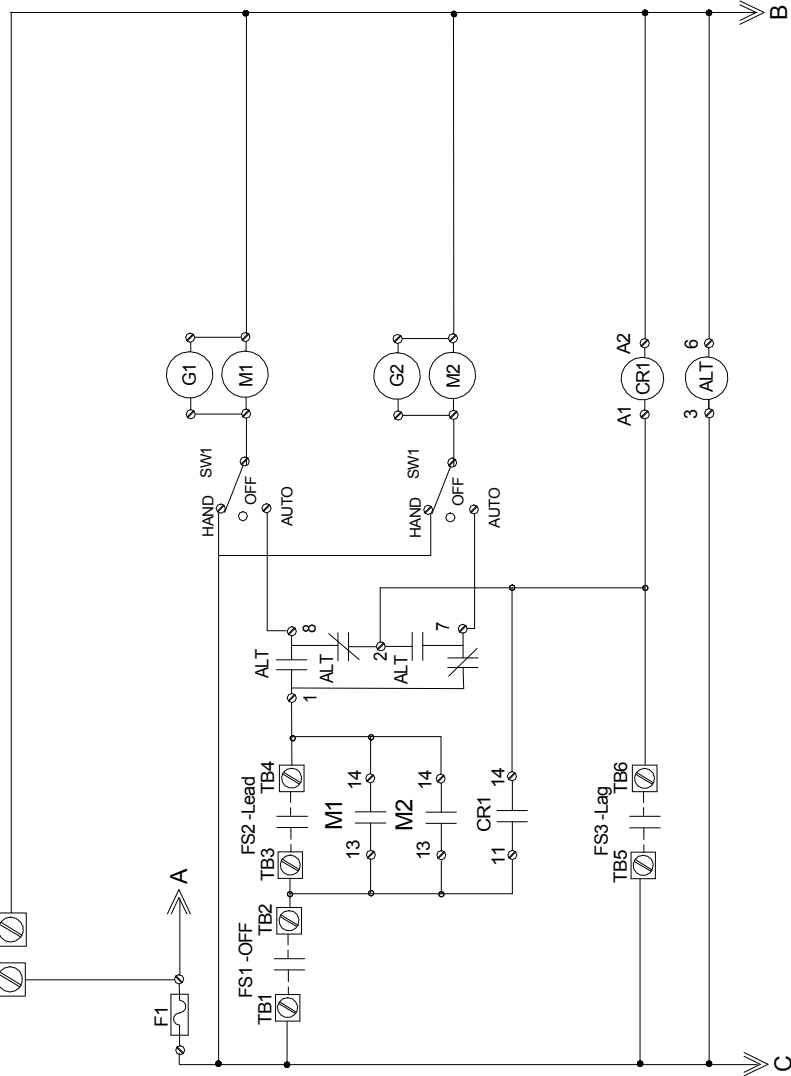
NOTES: 1. WARNING! Electrical Shock Hazard! Disconnect power before servicing this product. A qualified service person must install and service this product according to applicable electrical and plumbing codes.
 2. Install in accordance with National Electric Code, NFPA 70. Seal all boxes, fittings and conduit with appropriate seal devices to prevent moisture and gases from entering enclosure.
 3. Connect all grounds to a good ground. 4. Dashed lines represent field wiring - Use only 60 deg C Copper Wire

Pump Power
 120/230VAC
 60HZ
 L1 L2



Pump Load
 120/230 VAC, 0 - 20 Amps, 50/60 Hz
 Pumps must contain integral
 thermal overload protection

Alarm/Control Power
 120VAC,
 60HZ
 L1 N



FIELD WIRING **TERMINAL BLOCK**

1 F1 & F2 FUSES MUST BE REPLACED WITH 1 AMP TYPE AGC FAST ACTING 250 V/MAX.

CR	Control Relay
SW1,2	HOA Switch
G1,2	Pump Run Indicator
M1,2	Magnetic Contactor
GL	Ground Lug
CB1,2	Circuit Breaker
ALT	Alternating Relay
R	Alarm Indicator
B	Alarm Buzzer
PB	Push Button

1	FS1	PUMP STOP
2		
3	FS2	LEAD PUMP START
4		
5	FS3	LAG
6		
7	FS4	HIGH LEVEL
8		

LINE VOLTAGE: 120/230
PHASE: 1
HERTZ: 60

AVG. OR CIRCULAR MILL SIZE	SCREW DRIVER	TIGHTENING TORQUE IN INCH POUNDS	EXTERNAL DRIVE WRENCH
14	35	75	75
12	35	75	75
10	35	75	75
8	40	75	75
6	45	110	110
4	45	110	110
2	50	150	150
1	50	180	180
1/0	50	180	180
2/0	50	180	180

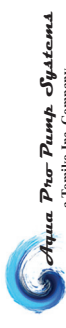
DRAWN BY: B. Klabunde

DWG # D10WLH REV: A

DATE: 10/02/07 SHEET: 1 OF 1

TITLE: D10WLH

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 PO Box 8056, Pittsburg, CA 94565

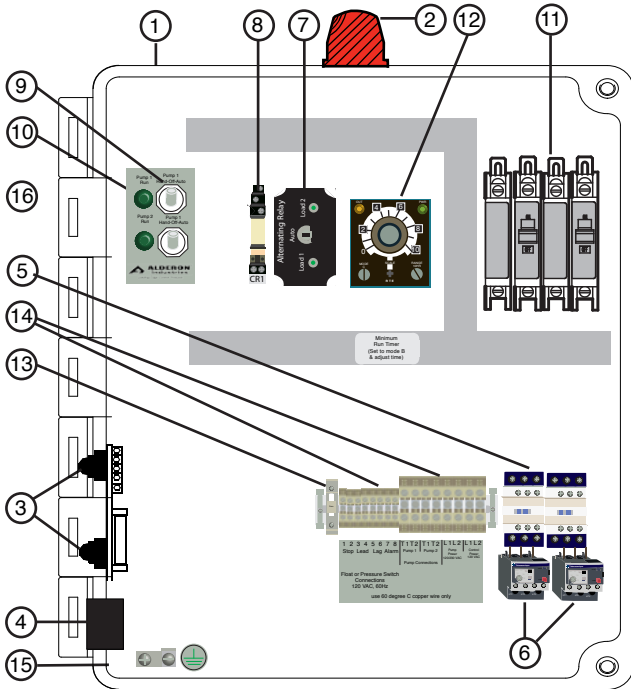


D12WLH-MR

Single Phase Duplex/Minimum Run

Description of Operation

The D12WLH-MR is a NEMA 4X (outdoor rated) SINGLE PHASE DUPLEX control panel. Operate a 115V, 208V or 230V pump for water or wastewater applications. This panel can operate with (3) or (4) float switches. An HOA switch is used to manually run the pump or pumps. Green pump run indicators will indicate if a pump is running. A red alarm beacon and alarm buzzer are located on the outside of the control panel. A Minimum Run Timer will guarantee the pump will run for a set amount of time. Pump overload relays will shut down the system if a pump overloads. A load selector switch is located on the alternating relay.



Electrical Ratings

- 1 Phase
- 5-23 Amps
- 120/208/230V
- 60 Hz.

External Components

- ① 16X14X8 Padlockable NEMA 4X Fiberglass
- ② Moisture Tight Beacon
- ③ Test/Silence Switches
- ④ Alarm Buzzer (95dB)

Internal Components

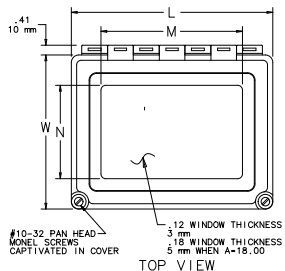
- ⑤ IEC Motor Contactors
- ⑥ Overload Relays (5-23amps)
- ⑦ Alternating Relay
- ⑧ Control Relay
- ⑨ HOA Switches
- ⑩ Pump Run Indicators
- ⑪ Pump Circuit Breakers
- ⑫ Minimum Run Timer
- ⑬ Fuse (1 amp)
- ⑭ Terminal Blocks
- ⑮ Ground Lug
- ⑯ UL Listed

Features and Benefits

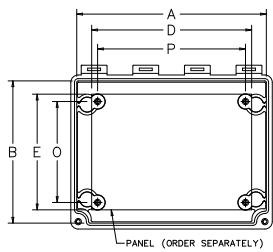
- Separate alarm & control fuses
- Alarm auto reset
- Load selector switch
- Labeled terminal blocks for easy installation of floats or switches
- (Optional float switches)
- 1 Year Warranty

Standard Size Fiberglass Hinged Solid Cover Type 4X Enclosures

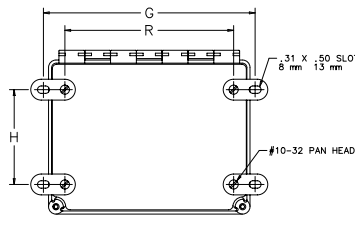
Catalog Number	A x B x C in. (mm)	Type	Panel Catalog Number ¹	Panel Size D x E in. (mm)	Mounting G x H in. (mm)	Overall L x W in. (mm)	F in. (mm)	J in. (mm)	K in. (mm)	O in. (mm)	P in. (mm)	Q in. (mm)	R in. (mm)	T in. (mm)	U in. (mm)
A16148CHQRFG	16.00 x 14.00 x 8.00 (406 x 356 x 203)	Quick-Release	A16P14 A16P14AL	14.75 x 12.88 (375 x 327)	16.94 x 12.00 (430 x 305)	16.55 x 14.55 (420 x 370)	7.45 (189)	6.23 (158)	2.08 (53)	12.25 (311)	14.25 (362)	15.56 (395)	15.12 (384)	0.15 (4)	13.56 (344)



TOP VIEW

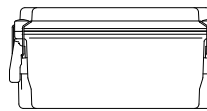


TOP VIEW WITH COVER REMOVED

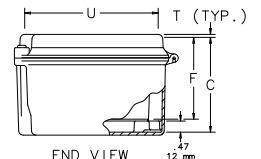


BOTTOM VIEW

NOTE: 1. Panel screws have #10-32 threads.
2. Mounting brackets are .16 (4mm) thick.



SIDE VIEW
(QUICK-RELEASE COVER ENCLOSURE)



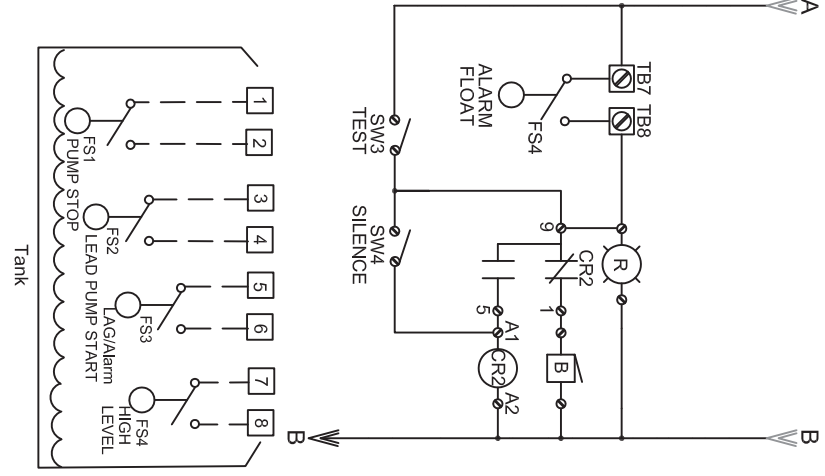
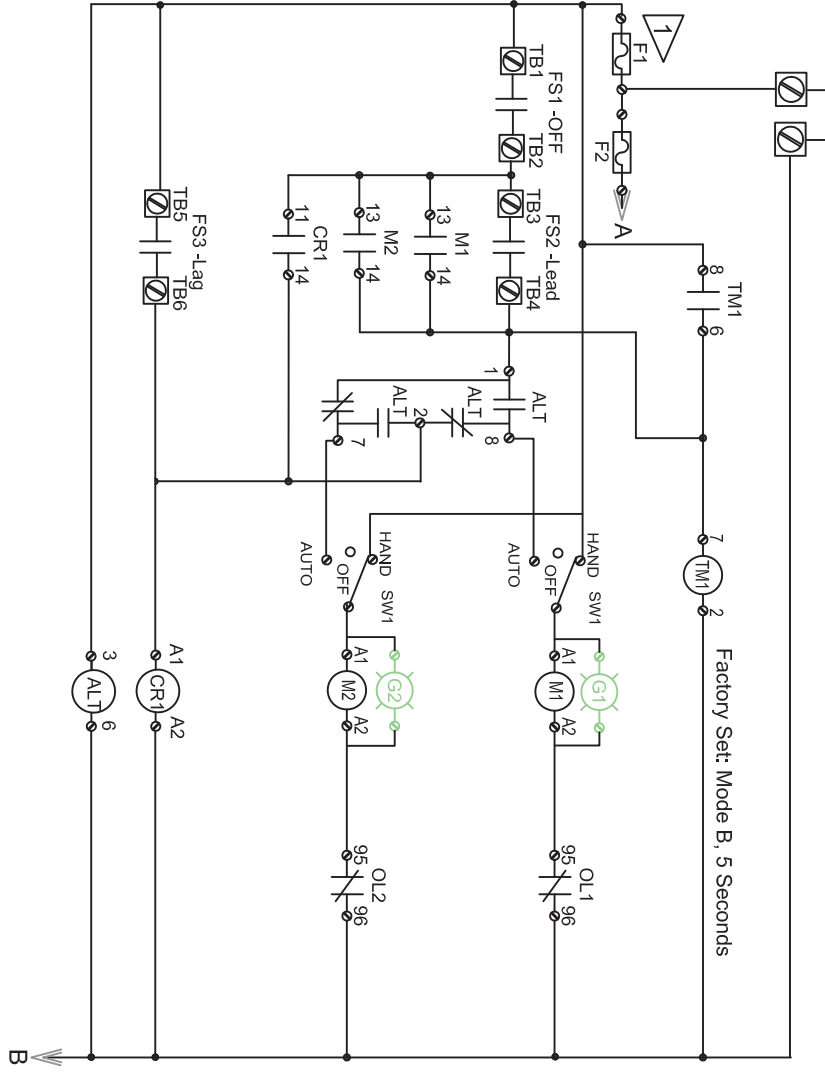
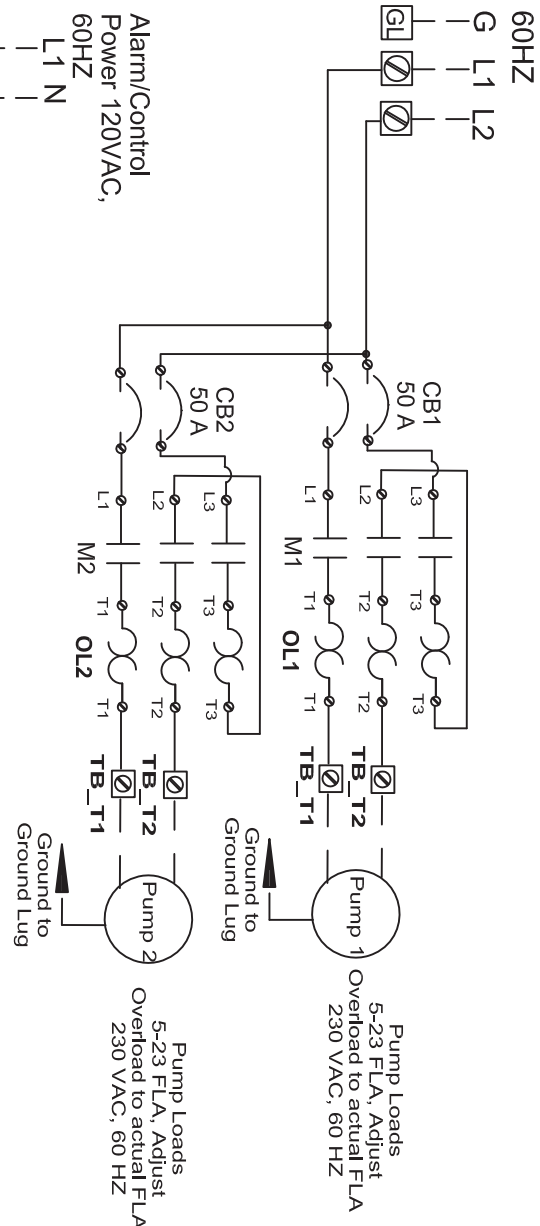
END VIEW



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Incoming Power
230VAC
60HZ
G L1 L2



---	FIELD WIRING
.....	FIELD SUPPLIED
⊗	TERMINAL BLOCK
TB	TERMINAL BLOCK
Power Wiring = BLK	
120VAC Control Wiring = RED	
Neutral = WHT	
Ground = GRN	
	TIGHTENING TORQUE IN INCH POUNDS
14	35
12	35
10	35
8	40
6	45
4	45
2	50
1	50
1/0	50
2/0	50

CR	CONTROL RELAY
GL	GROUND LUG
CB	CIRCUIT BREAKER
M1,2	MOTOR CONTACTOR
OL1,2	OVERLOAD RELAY
TM1	TIME RELAY
SW1,2	HAND OFF/AUTO
ALT	ALTERNATING RELAY
SW3	TEST SWITCH
SW4	ALARM SILENCE SWITCH
R	ALARM BEEPER
B	ALARM Buzzer

Ident. Number:	---
Part Number:	D12WLH-MR
Quote Number:	---
Drawn By:	Jeremy Drinkwine
Checked By:	---
Date:	7/24/13
Revision Level:	002

Sheet Description:	---
Sheet No.:	---

1	1
Of	

Notes:

1. **WARNING!** Electrical Shock Hazard! Disconnect power before servicing this product. A qualified service person must install and service this product according to applicable electrical and plumbing codes.
2. Install in accordance with National Electric Code, NFPA 70. Seal all boxes, fittings and conduit with appropriate seal devices to prevent moisture and gases from entering enclosure.
3. Connect all grounds to a good ground.
4. Dashed lines represent field wiring - Use *minimum* 60 deg C Copper Wire
5. Branch Circuit Protection Device/Disconnect Means Field Provided.



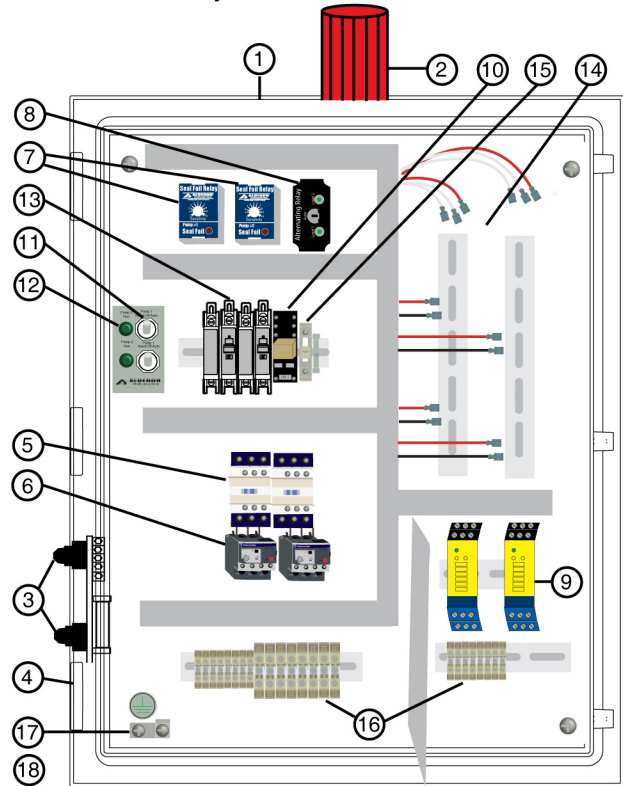
Phone 925.754.5686 Fax 925.754.5691
Email Sales@TomikoInc.com
PO Box 8056, Pittsburg, CA 94565

D12WLH-C-IS-SFT

Intrinsically Safe Single Phase Duplex

Description of Operation

The D12WLH-C-IS-SFT is a NEMA 4X (outdoor rated) SINGLE PHASE DUPLEX control panel used for INTRINSICALLY SAFE applications. Operate a 208V or 230V pump for water or wastewater applications. This panel operates with (3) or (4) float switches. HOA switches are used to manually run the pump(s). Green pump run indicators will indicate if a pump is running. Capacitor kits are mounted on the top right of the panel and are used to start the pumps. A red indicator light on the seal fail relays will indicate a seal failure. Thermal overload protection will shut off the pump(s) if overload occurs.



Electrical Ratings

- 1 Phase
- 5-23 Amps
- 120/208/230V
- 60 Hz.

External Components

- ① 30X24X12 Padlockable NEMA 4X Fiberglass
- ② Moisture Tight Beacon
- ③ Test/Silence Switches
- ④ Alarm Buzzer (95dB)

Internal Components

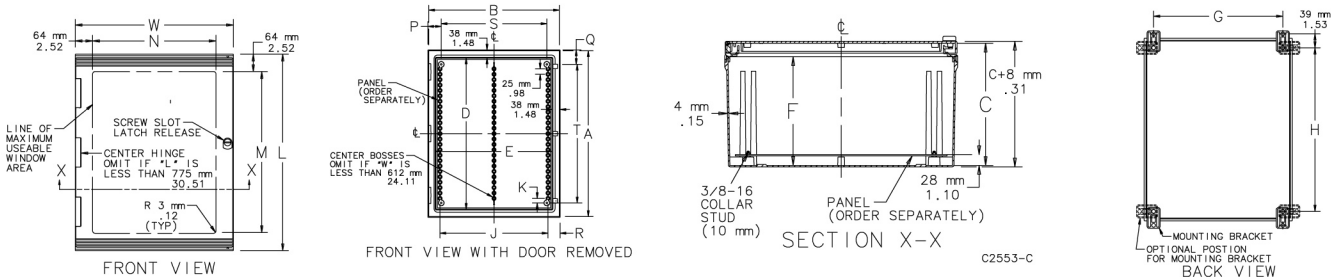
- ⑤ IEC Motor Contactors
- ⑥ Overload Relays (5-23amps)
- ⑦ Seal Fail Relays and Indicators
- ⑧ Alternating Relay
- ⑨ Intrinsically Safe Relays
- ⑩ Control Relay
- ⑪ HOA Switches
- ⑫ Pump Run Indicators
- ⑬ Pump Circuit Breakers
- ⑭ Pump Capacitors
- ⑮ Fuse (1 amp)
- ⑯ Terminal Blocks
- ⑰ Ground Lug
- ⑱ UL Listed

Features and Benefits

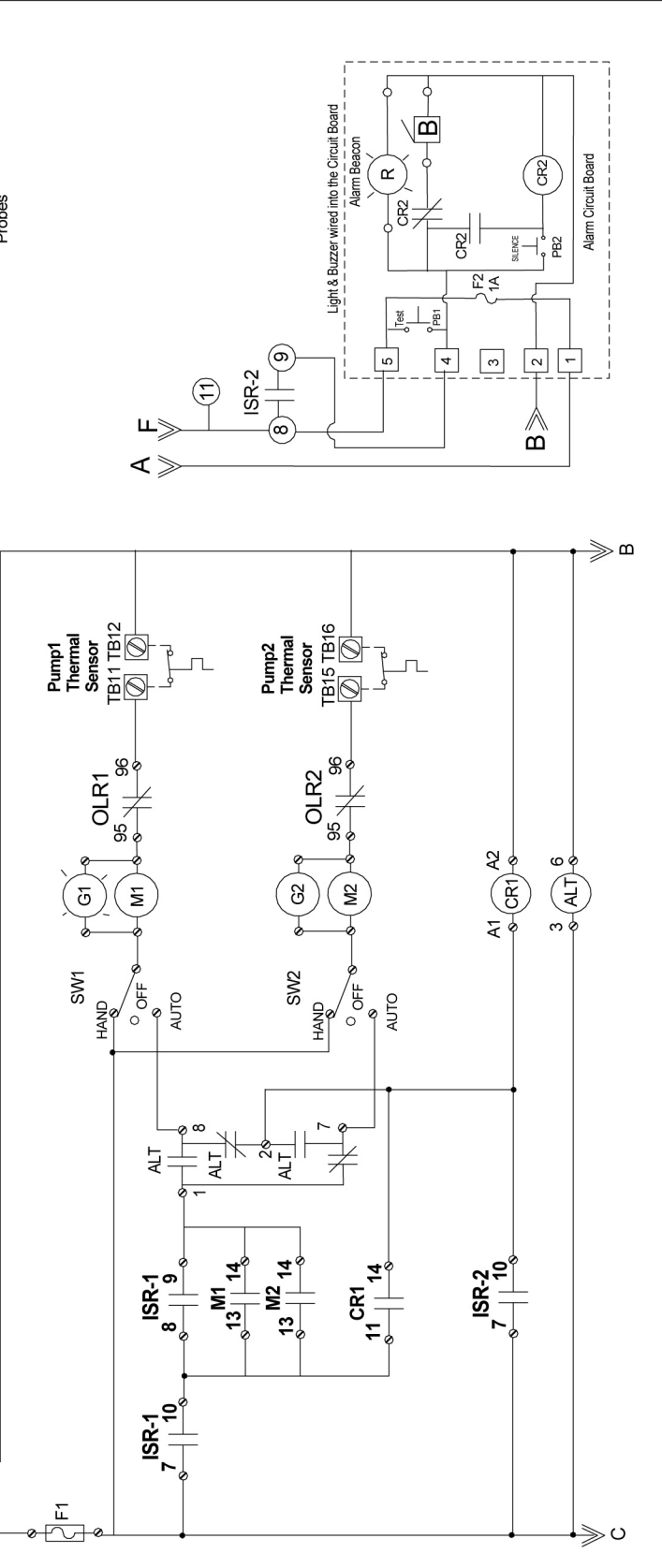
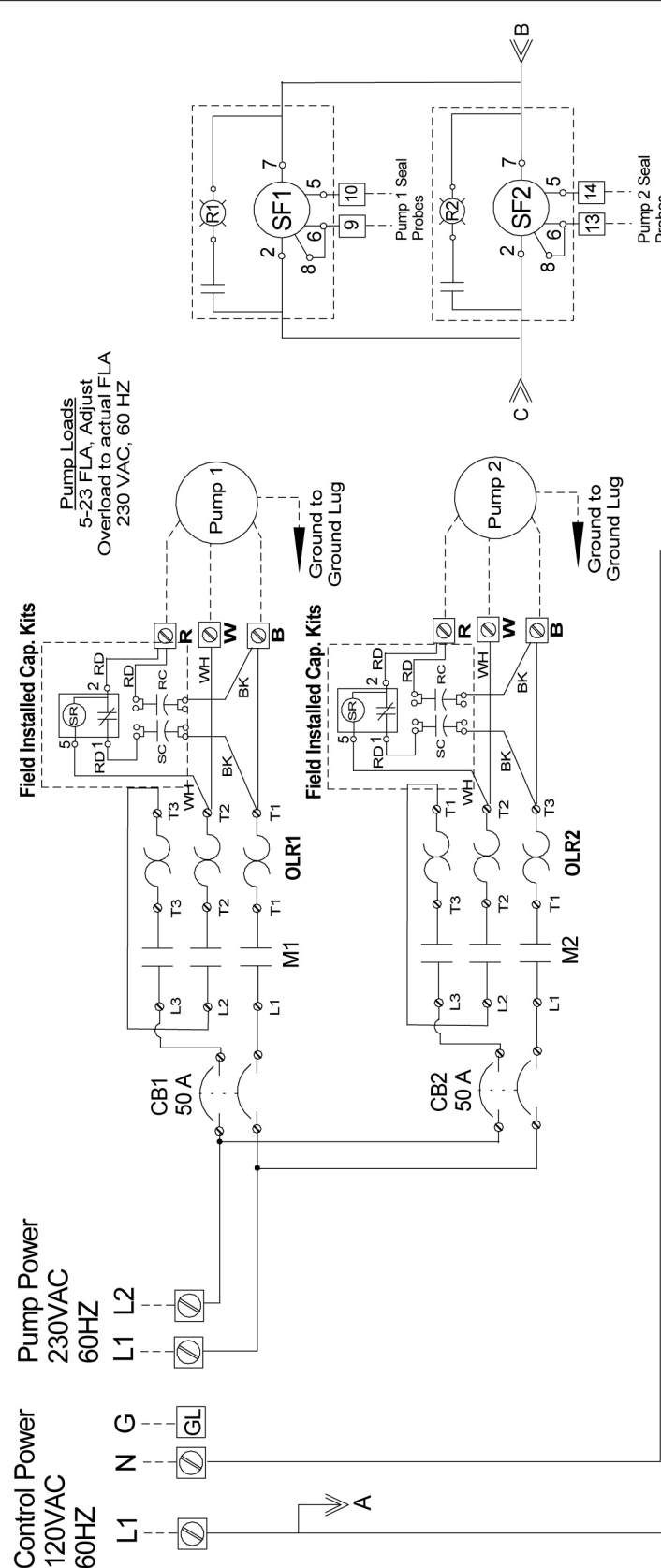
- Separate alarm & control fuses
- Alarm auto reset
- Load selector switch
- Labeled terminal blocks for easy installation of floats or switches
- (Optional float switches)
- 1 Year Warranty

Standard Sizes ULTRX Type 4X Fiberglass Enclosures (Cont.)

Catalog Number	External Dimensions L x W mm (in.)	Internal Dimensions A x B x C mm (in.)	Panel Catalog Number	Conductive Panel Catalog Number	Panel Size D x E mm (in.)	Mounting G x H mm (in.)	Window Size M x N mm (in.)	F mm (in.)	J mm (in.)	K mm (in.)	P mm (in.)	Q mm (in.)	R mm (in.)	S mm (in.)	T mm (in.)
UU756030	775 x 612 (30.51 x 24.09)	758 x 595 x 321 (29.84 x 23.43 x 12.64)	A30P24	A30P24G	686 x 533 (27.01 x 20.98)	555 x 718 (21.85 x 28.27)	—	287 (11.30)	500 (19.68)	21 (0.83)	62 (2.44)	67 (2.64)	56 (2.20)	489 (19.25)	641 (25.24)



NOTES: 1. WARNING! Electrical Shock Hazard! Disconnect power before servicing this product. A qualified service person must install and service this product according to applicable electrical and plumbing codes.
 2. Install in accordance with National Electric Code, NFPA 70, Seal all boxes, fittings and conduit with appropriate seal devices to prevent moisture and gases from entering enclosure.
 3. Connect all grounds to a good ground. 4. Dashed lines represent field wiring - Use only 60 deg C Copper Wire



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 Email Sales@tomikolnc.com
 PO Box 8056, Pittsburg, CA 94565

DWG# D12WLH-C-IS-SFT REV: A
 DATE: 12/06/07 SHEET: 1 OF 2
 TITLE: Single Phase Duplex
 Qoute:
 DRAWN BY: B. Miller

LINE VOLTAGE: 120/230
PHASE: 1
HERTZ: 60

AWG OR CIRCULAR MILL SIZE	TIGHTENING TORQUE IN INCH POUNDS	EXTERNAL DRIVE SCREW DRIVER WRENCH
14	35	75
12	35	75
10	35	75
8	40	75
6	45	110
4	45	110
2	50	150
1	50	150
1/0	50	180
2/0	50	180

FIELD WIRING TERMINAL BLOCK

F1, F2, F3 FUSES MUST BE REPLACED WITH 1 AMP TYPE AGC FAST ACTING 250 V MAX.

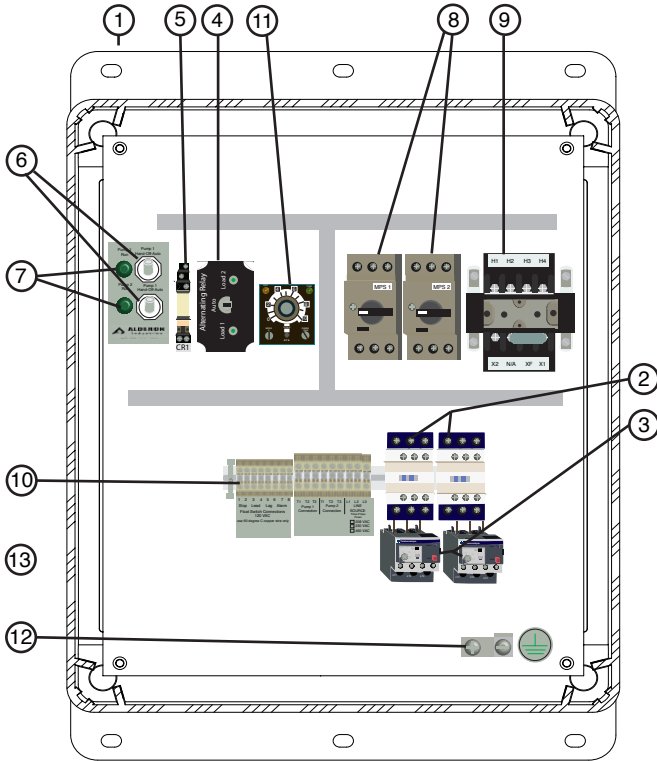
CR	Control Relay
SW	HOA Switch
G	Pump Run Indicator
M	Magnetic Contactor
OLR	Overload Relay
CB	Circuit Breaker
ALT	Alternating Relay
R	Alarm Beacon
B	Alarm Buzzer
PB	Push Button
ETM	Elapsed Time Meter
GL	Ground Lug
F	Fuse
ISR	Intrinsically Safe Relay
SR	Start Relay
SC	Start Capacitor
RC	Run Capacitor
SF	Seal Fail Relay
R1,2	Seal Indicators

D32-MR

Three Phase Duplex /NEMA 1/Min Run Timer

Description of Operation

The D32-MR is a NEMA 1 (indoor rated) Three Phase Duplex control panel used for water and wastewater applications. The panel operates 208/230/460 VAC pumps. It includes pump overload relays to shut down the system if a pump overloads. (2) float switches can be used to operate this control panel. HOA switches provide manual pump control. Green pump run indicators are located inside of the control panel and will indicate if a pump is running. Motor protective switches will shut off the pumps when the amp draw exceeds the setting on the Motor protective switch. A Minimum Run Timer will guarantee the pump will run for a set amount of time.



Electrical Ratings

- 3 Phase
- 208/230/460V
- 5-23 Amps
- 60 Hz.

External Components

- ① 18X16X10 Padlockable NEMA 1 Thermoplastic

Internal Components

- ② IEC Motor Contactors
- ③ Overload Relays (5-23amps)
- ④ Alternating Relay
- ⑤ Control Relay
- ⑥ HOA Switches
- ⑦ Pump Run Indicators
- ⑧ Motor Protective Switches

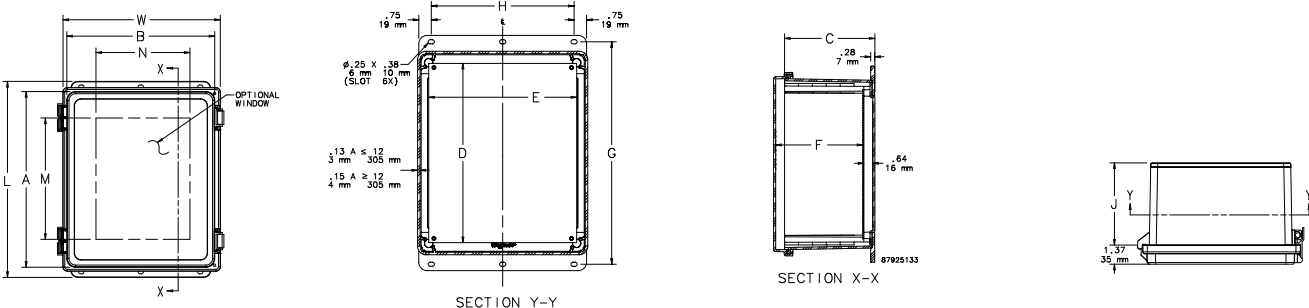
Features and Benefits

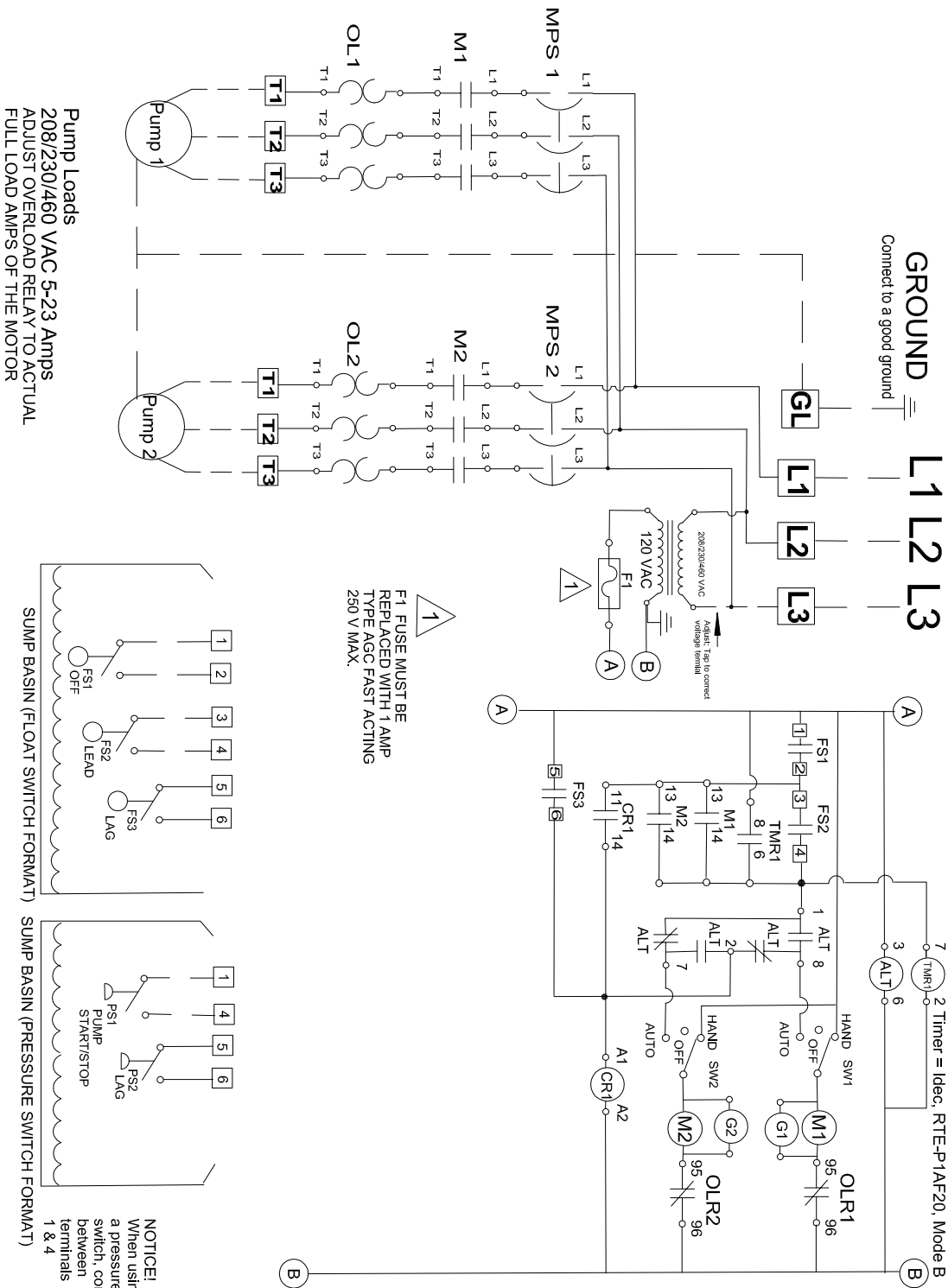
- Separate alarm & control fuses
- Alarm auto reset
- Load selector switch
- Labeled terminal blocks for easy installation of floats or switches
- (Optional float switches)
- 1 Year Warranty

- ⑨ Transformer
- ⑩ Terminal Blocks
- ⑪ Minimum Run Timer
- ⑫ Ground Lug
- ⑬ UL Listed

Standard Sizes PolyPro Type 4X Polyester Enclosures

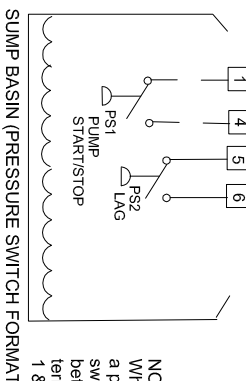
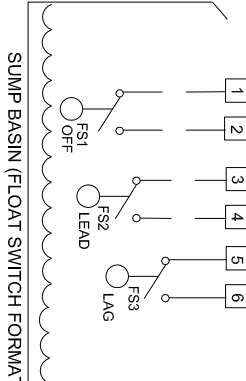
Enclosure Catalog Number		Enclosure Size A x B x C in. (mm)	Aluminum Panel Catalog Number ^a	Panel Size D X E in. (mm)	F in. (mm)	G in. (mm)	H in. (mm)	J in. (mm)	L in. (mm)	M ^b in. (mm)	N ^b in. (mm)	W in. (mm)
Solid Door	Window Door											
A181610PHC	A181610PHCW	17.95 x 15.94 x 10.35 (456 x 405 x 263)	A18P16AL	16.75 x 14.88 (425 x 378)	10.27 (261)	19.20 (488)	14.56 (370)	9.91 (252)	19.97 (507)	16.25 (413)	14.25 (362)	17.32 (440)





Pump Loads
 208/230/460 VAC 5-23 Amps
 ADJUST OVERLOAD RELAY TO ACTUAL
 FULL LOAD AMPS OF THE MOTOR

F1 FUSE MUST BE REPLACED WITH 1 AMP TYPE AGC FAST ACTING 250 V MAX.



NOTICE!
 When using a pressure switch, connect between terminals 1 & 4

--- FIELD WIRING	 FIELD SUPPLIED	
TERMINAL BLOCK			
ANG/ OR CIRCULAR MILL SIZE	TIGHTENING TORQUE IN INCH POUNDS	EXTERNAL DRIVE WRENCH	
14	35	75	
12	35	75	
10	35	75	
8	40	75	
6	45	110	
4	45	110	
2	50	150	
1	50	150	
1/0	50	180	
2/0	50	180	
LEGEND			
CR	CONTROL RELAY		
PB	PUSH BUTTON SWITCH		
ALT	ALTERNATING RELAY		
FS	FLOAT SWITCH		
SW	HAND-OFF-AUTO SWITCH		
F	FUSE		
G1.2	PUMP RUN INDICATOR		
MPS	MOTOR PROTECTIVE SWITCH		
M	MAGNETIC CONTACTOR		
GL	GROUND LUG		
TMR 1	MIN. RUN TIMER (MODE B)		

- NOTES:**
1. WARNING! Electrical Shock Hazard! Disconnect power before servicing this product. A qualified service person must install and service this product according to applicable electrical and plumbing codes.
 2. Install in accordance with National Electric Code, NFPA 70. Seal all boxes, fittings and conduit with appropriate seal devices to prevent moisture and gases from entering enclosure.
 3. Connect all grounds to a good ground.
 4. Dashed lines represent field wiring - Use only 60 deg C Copper Wire
 5. Branch Circuit Protection Device/Disconnect Means Field Provided.

DRAWN BY:	DB	DATE:	7/13/2012
CHECKED BY:	XX	QUOTE NO.:	1
REVISIONS:			
NO:	DATE:	DESCRIPTION:	
DWG #	D32-MR		

LINE VOLTAGE: 208/230/460
 PHASE: 3
 HERTZ: 60

SHEET NO.: 1 OF 1

SHEET DESCRIPTION:
 PROJECT #:
 D32-MR
 PRODUCTION SCHEMATIC

Aqua Pro Pump Systems
 a Tomiko Inc. Company

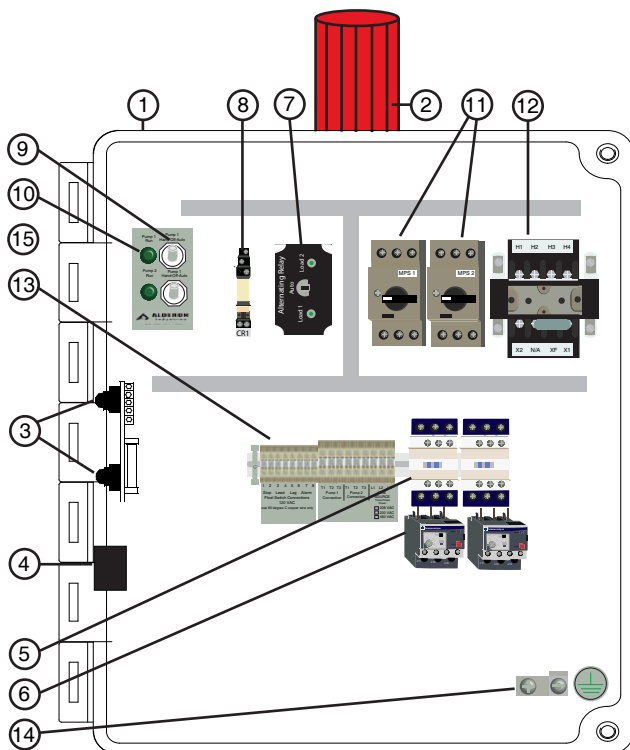
Phone 925.754.5686 Fax 925.754.5691
 Email Sales@Tomikolnc.com
 PO Box 8056, Pittsburg, CA 94565

D32WLH

Three Phase Duplex /NEMA 4X/Alarm

Description of Operation

The D32WLH is a NEMA 4X (outdoor rated) Three Phase Duplex control panel used for water and wastewater applications. The panel operates 208/230/460 VAC pumps. It includes pump overload relays to shut down the system if a pump overloads. (3) or (4) float switches can be used to operate this control panel. HOA switches provide manual pump control. Green pump run indicators are located inside of the control panel and will indicate if a pump is running. A red alarm beacon and alarm buzzer are located on the outside of the control panel. Motor protective switches will shut off the pumps when the amp draw exceeds the setting on the Motor protective switch.



Electrical Ratings

- 3 Phase
- 208/230/460V
- 5-23 Amps
- 60 Hz.

Features and Benefits

- Separate alarm & control fuses
- Alarm auto reset
- Load selector switch
- Labeled terminal blocks for easy installation of floats or switches
- (Optional float switches)
- 1 Year Warranty

External Components

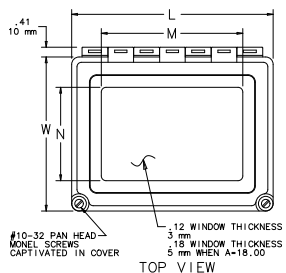
- ① 18X16X10 Padlockable NEMA 4X Fiberglass
- ② Moisture Tight Beacon
- ③ Test/Silence Switches
- ④ Alarm Buzzer (95dB)

Internal Components

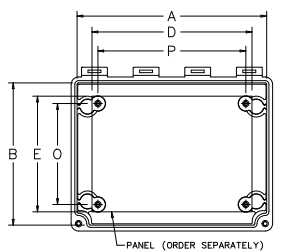
- ⑤ IEC Motor Contactors
- ⑥ Overload Relays (5-23amps)
- ⑦ Alternating Relay
- ⑧ Control Relay
- ⑨ HOA Switches
- ⑩ Pump Run Indicators
- ⑪ Motor Protective Switches
- ⑫ Transformer
- ⑬ Terminal Blocks
- ⑭ Ground Lug
- ⑮ UL Listed

Standard Sizes Fiberglass Hinged Solid Cover Type 4X Enclosures

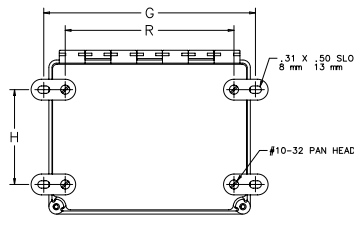
Catalog Number	A x B x C in. (mm)	Type	Panel Catalog Number ¹	Panel Size D x E in. (mm)	Mounting G x H in. (mm)	Overall L x W in. (mm)	F in. (mm)	J in. (mm)	K in. (mm)	O in. (mm)	P in. (mm)	Q in. (mm)	R in. (mm)	T in. (mm)	U in. (mm)
A181610CHQRFG	18.00 x 16.00 x 10.00 (457 x 406 x 254)	Quick-Release	A18P16 A18P16AL	16.75 x 14.88 (425 x 378)	18.94 x 14.00 (481 x 356)	18.58 x 16.58 (472 x 421)	9.45 (240)	7.66 (195)	2.66 (68)	14.25 (362)	16.25 (413)	17.53 (445)	17.12 (435)	0.16 (4)	15.53 (394)



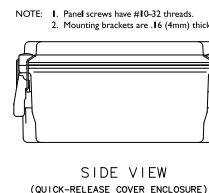
TOP VIEW



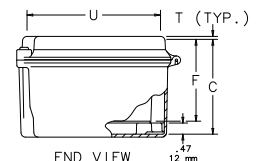
TOP VIEW WITH COVER REMOVED



BOTTOM VIEW



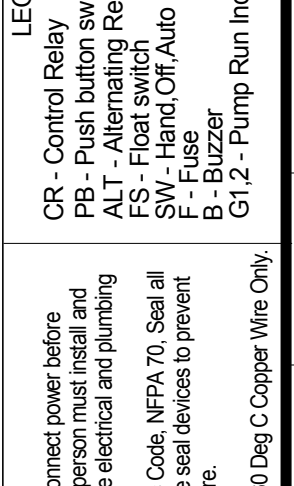
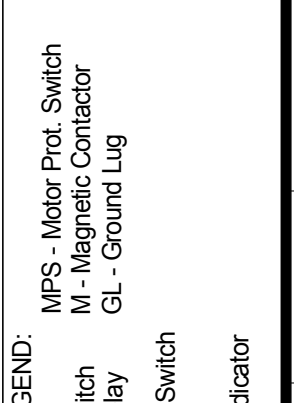
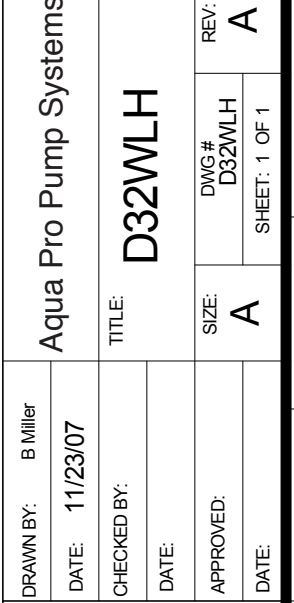
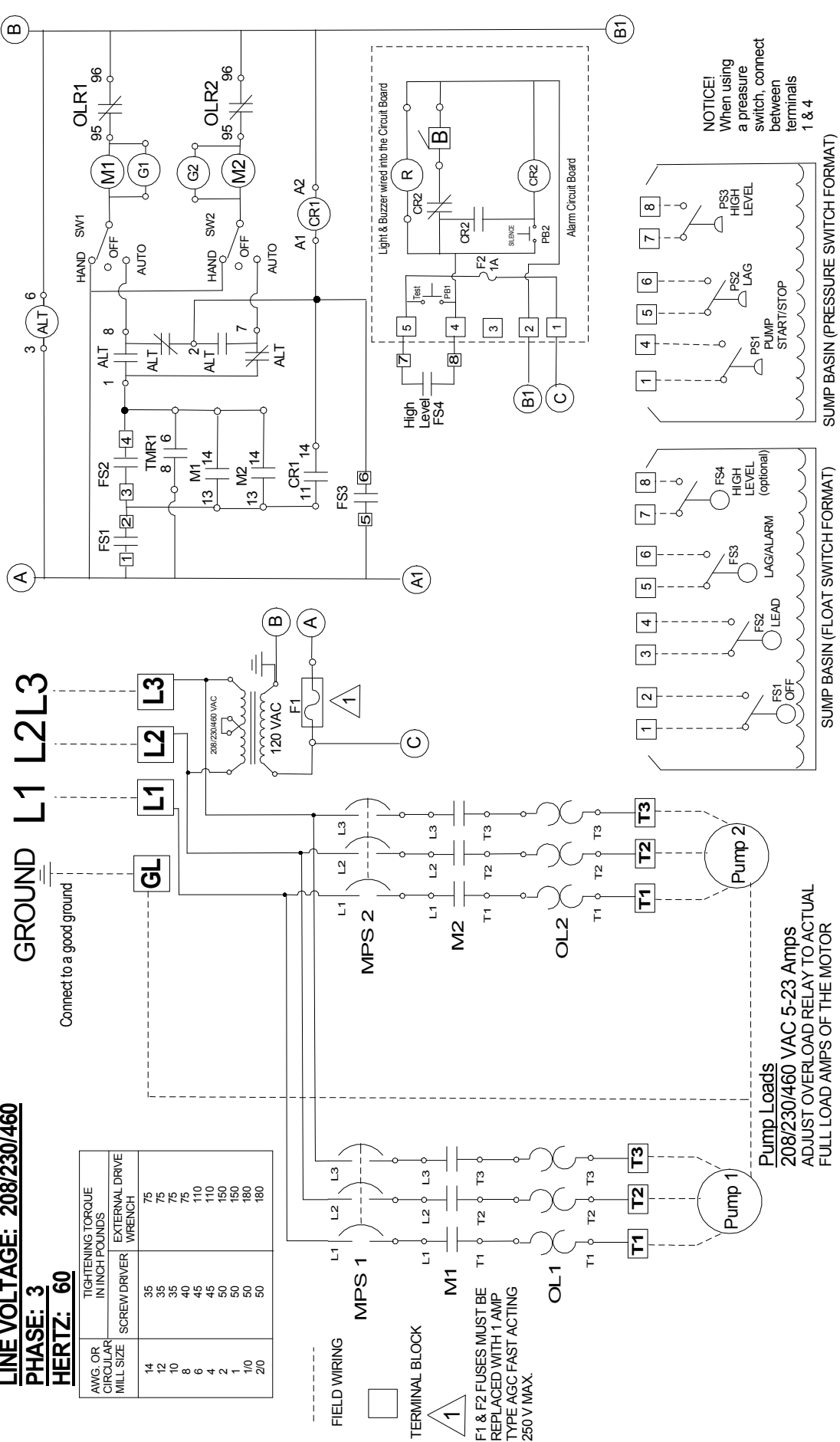
SIDE VIEW
(QUICK-RELEASE COVER ENCLOSURE)



END VIEW

LINE VOLTAGE: 208/230/460
PHASE: 3
HERTZ: 60

AWG. OR CIRCULAR MILL SIZE	TIGHTENING TORQUE IN INCH POUNDS	EXTERNAL DRIVE SCREW DRIVER	WRENCH
14	35	75	75
12	35	75	75
10	35	75	75
8	40	110	110
6	45	150	150
4	50	180	180
2	50	180	180
1	50	180	180
1/0	50	180	180
2/0	50	180	180



NOTES:

- WARNING! Electrical Shock Hazard! Disconnect power before servicing this product. A qualified service person must install and service this product according to applicable electrical and plumbing codes.
- Install in accordance with National Electric Code, NFPA 70. Seal all boxes, fittings and conduit with appropriate seal devices to prevent moisture and gases from entering enclosure.
- Connect all grounds to a good ground.
- Dashed lines represent field wiring. Use 60 Deg C Copper Wire Only.

LEGEND:

- CR - Control Relay
- PB - Push button switch
- ALT - Alternating Relay
- FS - Float switch
- SW - Hand, Off, Auto Switch
- F - Fuse
- B - Buzzer
- G1,2 - Pump Run Indicator
- MPS - Motor Prot. Switch
- M - Magnetic Contactor
- GL - Ground Lug

Drawn By: B Miller
Date: 11/23/07
Checked By:
Date:
Approved:
Date:

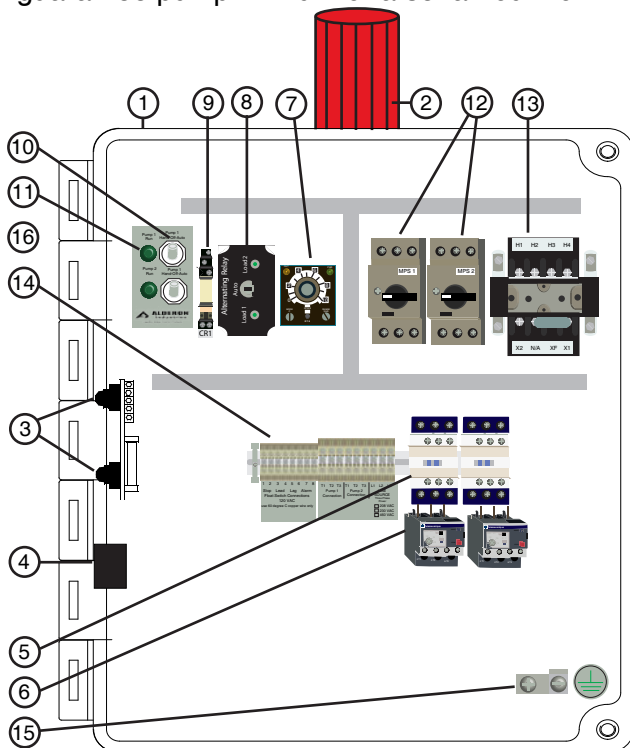
Title: Aqua Pro Pump Systems
DWG#: D32WLH
Size: A
Rev: A
Sheet: 1 OF 1

D32WLH-MR

Three Phase Duplex/Minimum Run Timer

Description of Operation

The D32WLH-MR is a NEMA 4X (outdoor rated) Three Phase Duplex control panel used for water and wastewater applications. The panel operates 208/230/460 VAC pumps. It includes pump overload relays to shut down the system if a pump overloads. (3) or (4) float switches can be used to operate this control panel. HOA switches provide manual pump control. Green pump run indicators are located inside of the control panel and will indicate if a pump is running. A red alarm beacon and alarm buzzer are located on the outside of the control panel. Motor protective switches will shut off the pumps when the amp draw exceeds the setting on the Motor protective switch. A Minimum Run Timer will guarantee pump will run for a set amount of time.



Electrical Ratings

- 3 Phase
- 208/230/460V
- 5-23 Amps
- 60 Hz.

Features and Benefits

- Separate alarm & control fuses
- Alarm auto reset
- Load selector switch
- Labeled terminal blocks for easy installation of floats or switches
- (Optional float switches)
- 1 Year Warranty

External Components

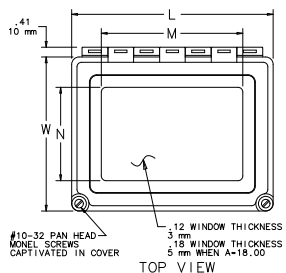
- ① 18X16X10 Padlockable NEMA 4X Fiberglass
- ② Moisture Tight Beacon
- ③ Test/Silence Switches
- ④ Alarm Buzzer (95dB)

Internal Components

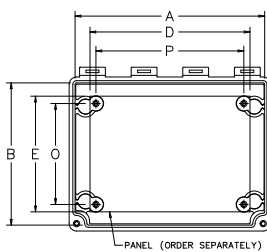
- ⑤ IEC Motor Contactors
- ⑥ Overload Relays (5-23amps)
- ⑦ Minimum Run Timer
- ⑧ Alternating Relay
- ⑨ Control Relay
- ⑩ HOA Switches
- ⑪ Pump Run Indicators
- ⑫ Motor Protective Switches
- ⑬ Transformer
- ⑭ Terminal Blocks
- ⑮ Ground Lug
- ⑯ UL Listed

Standard Sizes Fiberglass Hinged Solid Cover Type 4X Enclosures

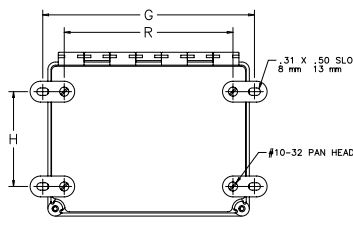
Catalog Number	A x B x C in. (mm)	Type	Panel Catalog Number ¹	Panel Size D x E in. (mm)	Mounting G x H in. (mm)	Overall L x W in. (mm)	F in. (mm)	J in. (mm)	K in. (mm)	O in. (mm)	P in. (mm)	Q in. (mm)	R in. (mm)	T in. (mm)	U in. (mm)
A181610CHQRFG	18.00 x 16.00 x 10.00 (457 x 406 x 254)	Quick-Release	A18P16 A18P16AL	16.75 x 14.88 (425 x 378)	18.94 x 14.00 (481 x 356)	18.58 x 16.58 (472 x 421)	9.45 (240)	7.66 (195)	2.66 (68)	14.25 (362)	16.25 (413)	17.53 (445)	17.12 (435)	0.16 (4)	15.53 (394)



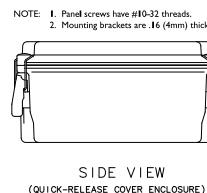
TOP VIEW



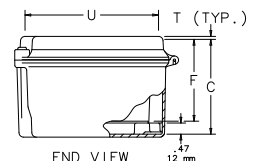
TOP VIEW WITH COVER REMOVED



BOTTOM VIEW



SIDE VIEW
(QUICK-RELEASE COVER ENCLOSURE)



END VIEW



Aqua Pro Pump Systems
a Tomiko Inc. Company

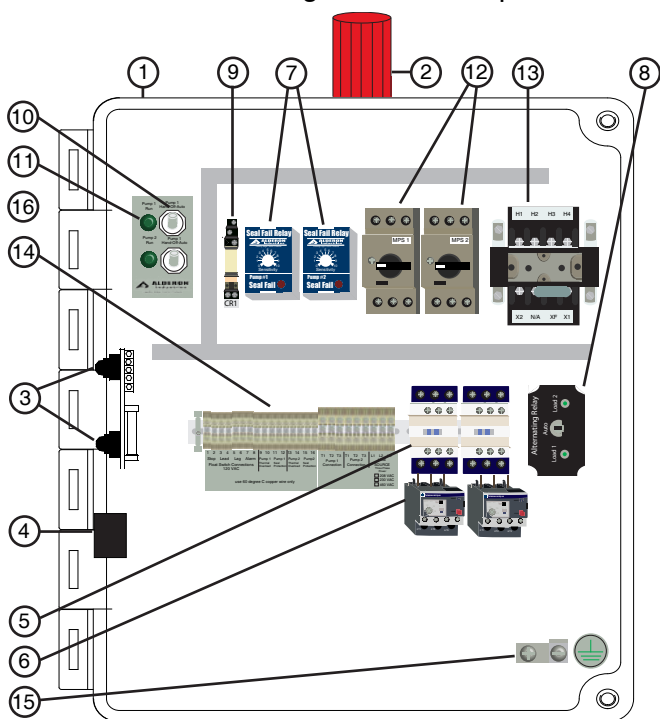
Phone 925.754.5686 Fax 925.754.5691
Email Sales@TomikoInc.com
PO Box 8056, Pittsburg, CA 94565

D32WLH-SFT

Three Phase Duplex/Seal Fail/Thermal Cutout

Description of Operation

The D32WLH-SFT is a NEMA 4X (outdoor rated) Three Phase Duplex control panel used for water and wastewater applications. The panel operates 208/230/460 VAC pumps. It includes pump overload relays to shut down the system if a pump overloads. A red indicator light on the seal fail relays will indicate a seal failure. (3) or (4) float switches can be used to operate this control panel. HOA switches provide manual pump control. Green pump run indicators are located inside of the control panel and will indicate if a pump is running. A red alarm beacon and alarm buzzer are located on the outside of the control panel. Motor protective switches will shut off the pumps when the amp draw exceeds the the setting on the motor protective switch.



Electrical Ratings

- 3 Phase
- 5-23 Amps
- 208/230/460V
- 60 Hz.

Features and Benefits

- Separate alarm & control fuses
- Alarm auto reset
- Load selector switch
- Labeled terminal blocks for easy installation of floats or switches
- (Optional float switches)
- 1 Year Warranty

External Components

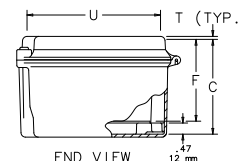
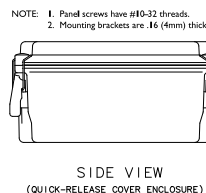
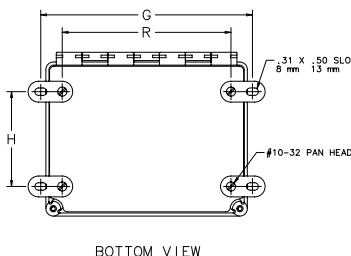
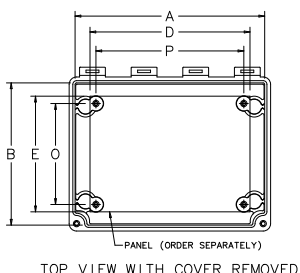
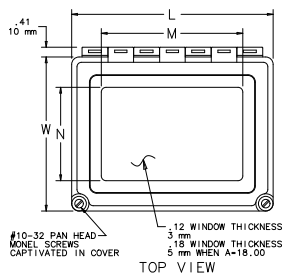
- ① 18X16X10 Hinged NEMA 4X Fiberglass
- ② Moisture Tight Beacon
- ③ Test/Silence Switches
- ④ Alarm Buzzer (95dB)

Internal Components

- ⑤ IEC Motor Contactors
- ⑥ Overload Relays (5-23amps)
- ⑦ Seal Fail Relays and Indicators
- ⑧ Alternating Relay
- ⑨ Control Relay
- ⑩ HOA Switches
- ⑪ Pump Run Indicators
- ⑫ Motor Protective Switches
- ⑬ Transformer
- ⑭ Terminal Blocks
- ⑮ Ground Lug
- ⑯ UL Listed

Standard Sizes Fiberglass Hinged Solid Cover Type 4X Enclosures

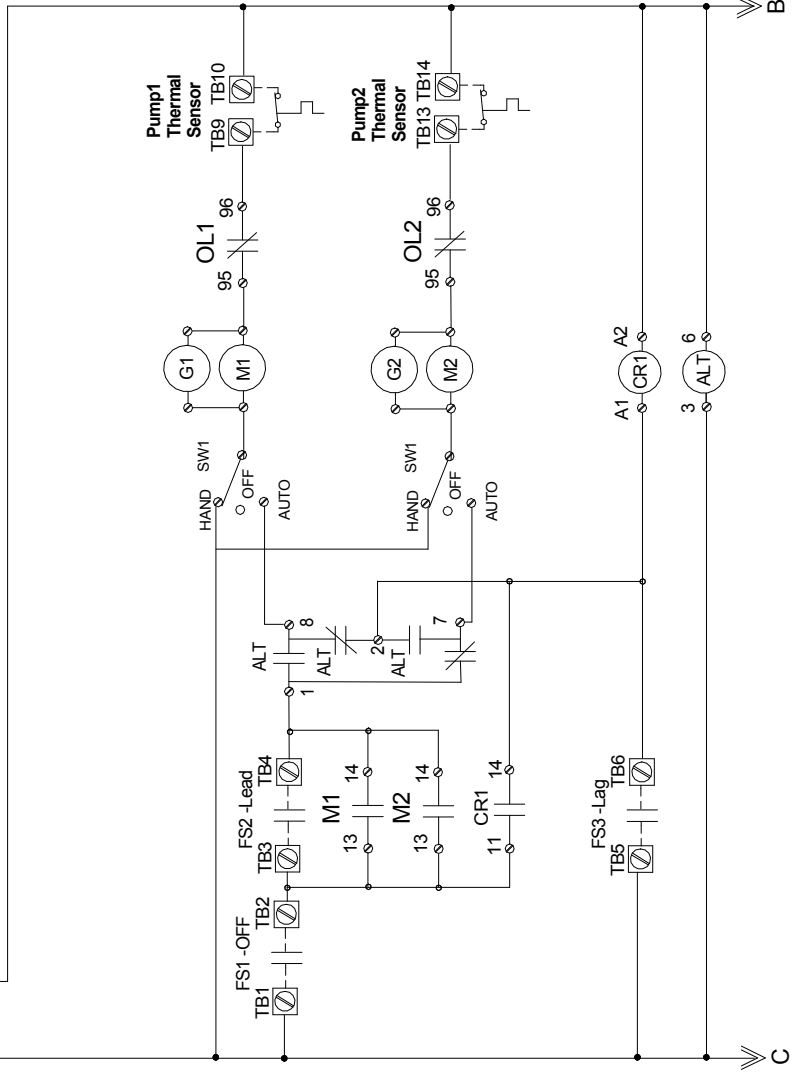
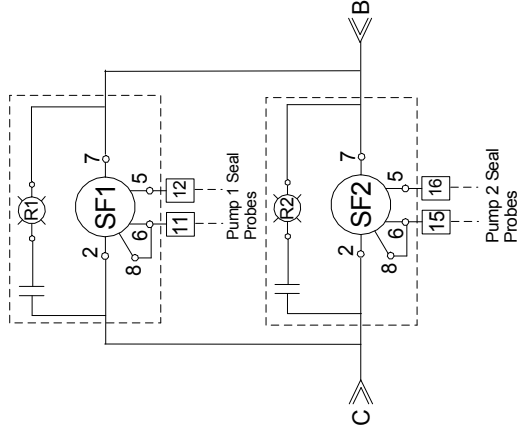
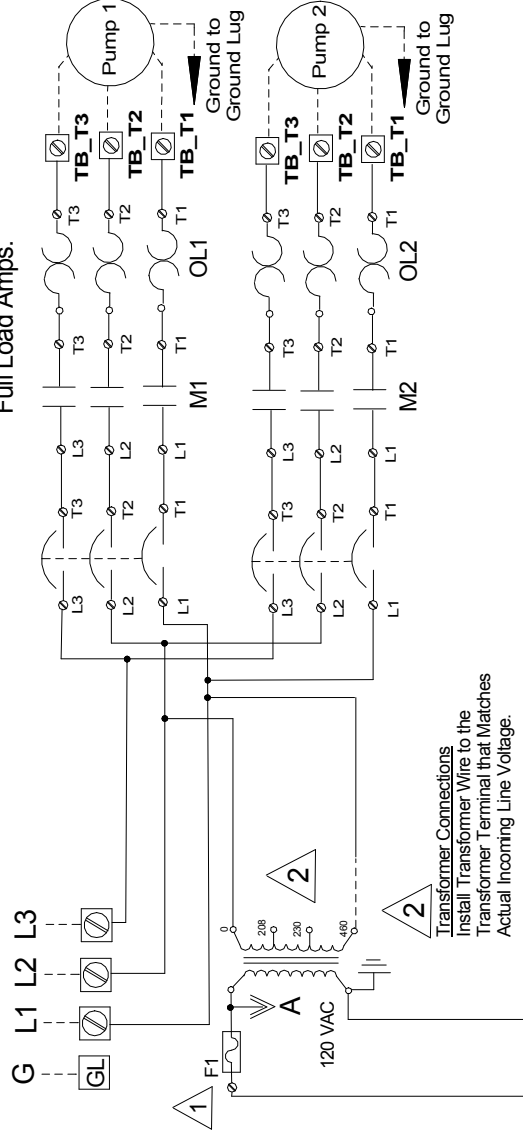
Catalog Number	A x B x C in. (mm)	Type	Panel Catalog Number ¹	Panel Size D x E in. (mm)	Mounting G x H in. (mm)	Overall L x W in. (mm)	F in. (mm)	J in. (mm)	K in. (mm)	O in. (mm)	P in. (mm)	Q in. (mm)	R in. (mm)	T in. (mm)	U in. (mm)
A181610CHQRFQ	18.00 x 16.00 x 10.00 (457 x 406 x 254)	Quick-Release	A18P16 A18P16AL	16.75 x 14.88 (425 x 378)	18.94 x 14.00 (481 x 356)	18.58 x 16.58 (472 x 421)	9.45 (240)	7.66 (195)	2.66 (68)	14.25 (362)	16.25 (413)	17.53 (445)	17.12 (435)	0.16 (4)	15.53 (394)



NOTES: 1. **WARNING!** Electrical Shock Hazard! Disconnect power before servicing this product. A qualified service person must install and service this product according to applicable electrical and plumbing codes.
 2. Install in accordance with National Electric Code, NFPA 70. Seal all boxes, fittings and conduit with appropriate seal devices to prevent moisture and gases from entering enclosure.
 3. Connect all grounds to a good ground. 4. Dashed lines represent field wiring - Use only 60 deg C Copper Wire

Incoming Power
 208/230/460VAC
 60HZ

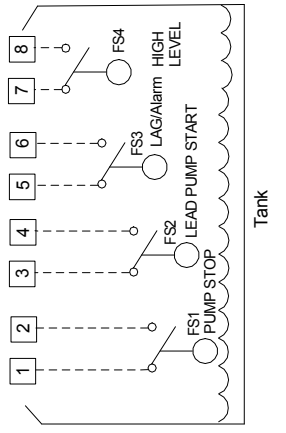
Pump Load
 208/230/60VAC, 5.4-23 FLA
 Adjust MPS & Overload to Actual Full Load Amps.



1 F1 & F2 FUSES MUST BE REPLACED WITH 1 AMP TYPE AGC-FAST ACTING 250V/MAX.

FIELD WIRING TERMINAL BLOCK

CR	Control Relay
SW1,2	HOA Switch
G1,2	Pump Run Indicator
M1,2	Magnetic Contactor
OL1,2	Overload Relay
CB1,2	Circuit Breaker
ALT	Alternating Relay
R	Alarm Indicator
B	Alarm Buzzer
PB	Push Button
GL	Ground Lug
SF1,2	Seal Fail Relay
R1,2	Seal Fail Indicators



Apia Pro Pump Systems
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 Email Sales@tomikoinc.com
 PO Box 8056, Pittsburg, CA 94565

DWG # D32WLH-SFT REV: A
 DATE: 10/02/07 SHEET: 1 OF 1
 TITLE: D32WLH-SFT

DRAWN BY: B. Klabunde

LINE VOLTAGE: 208/230/460
PHASE: 3
HERTZ: 60

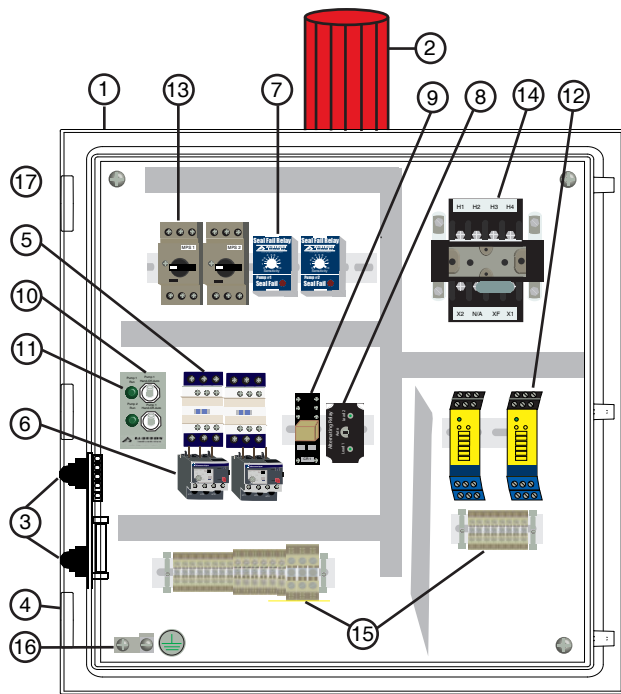
AVG. OR CIRCULAR MILL SIZE	SCREW DRIVER	TIGHTENING TORQUE IN INCH POUNDS	EXTERNAL DRIVE WRENCH
14	35	75	75
12	35	75	75
10	35	75	75
8	40	75	110
6	45	110	110
4	45	110	150
2	50	150	180
1	50	180	180
1/10	50	180	180
20	50	180	180

D32WLH-IS-SFT

Intrinsically Safe Three Phase Duplex

Description of Operation

The D32WLH-IS-SFT is a NEMA 4X (outdoor rated) Three Phase Duplex control panel used for INTRINSICALLY SAFE applications. The panel includes an alarm. It operates 208/230/460 VAC pumps. It includes pump overload relays to shut down the system if a pump overloads. A red indicator light on the seal fail relays will indicate a seal failure. (3) or (4) float switches can be used to operate this control panel. HOA switches provide manual pump control. Green pump run indicators are located inside of the control panel and will indicate if a pump is running. A red alarm beacon and alarm buzzer are located on the outside of the control panel.



Electrical Ratings

- 3 Phase
- 208/230/460V
- 5-23 Amps
- 60 Hz.

External Components

- ① 24X24X12 Padlockable NEMA 4X Fiberglass
- ② Moisture Tight Beacon
- ③ Test/Silence Switches
- ④ Alarm Buzzer (95dB)

Internal Components

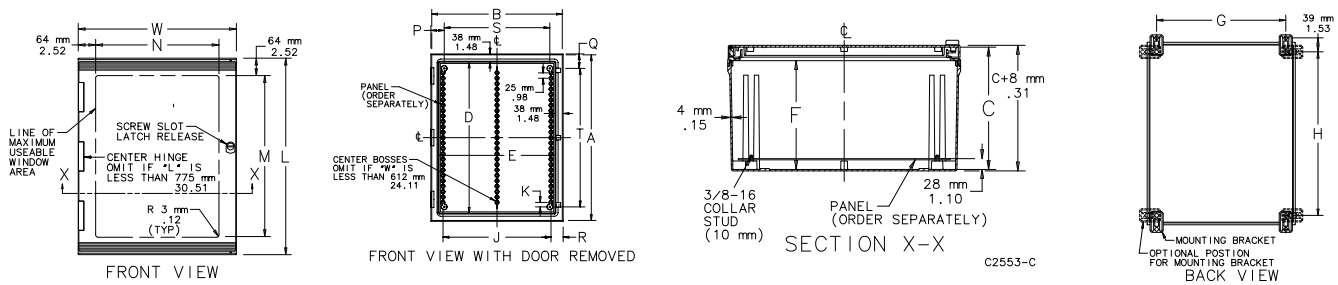
- ⑤ IEC Motor Contactors
- ⑥ Overload Relays (5-23amps)
- ⑦ Seal Fail Relays and Indicators
- ⑧ Alternating Relay
- ⑨ Control Relay
- ⑩ HOA Switches
- ⑪ Pump Run Indicators

Features and Benefits

- Separate alarm & control fuses
- Alarm auto reset
- Load selector switch
- Labeled terminal blocks for easy installation of floats or switches
- (Optional float switches)
- 1 Year Warranty

Standard Sizes ULTRX Type 4X Fiberglass Enclosures (Cont.)

Catalog Number	External Dimensions L x W mm (in.)	Internal Dimensions A x B x C mm (in.)	Panel Catalog Number	Conductive Panel Catalog Number	Panel Size D x E mm (in.)	Mounting G x H mm (in.)	Window Size M x N mm (in.)	F mm (in.)	J mm (in.)	K mm (in.)	P mm (in.)	Q mm (in.)	R mm (in.)	S mm (in.)	T mm (in.)
UU606030	625 x 612 (24.61 x 24.09)	608 x 595 x 321 (23.94 x 23.43 x 12.64)	A24P24	A24P24G	533 x 533 (20.98 x 20.98)	555 x 568 (21.85 x 22.36)	—	287 (11.30)	500 (19.68)	21 (0.83)	62 (2.44)	68 (2.68)	56 (2.20)	489 (19.25)	489 (19.25)

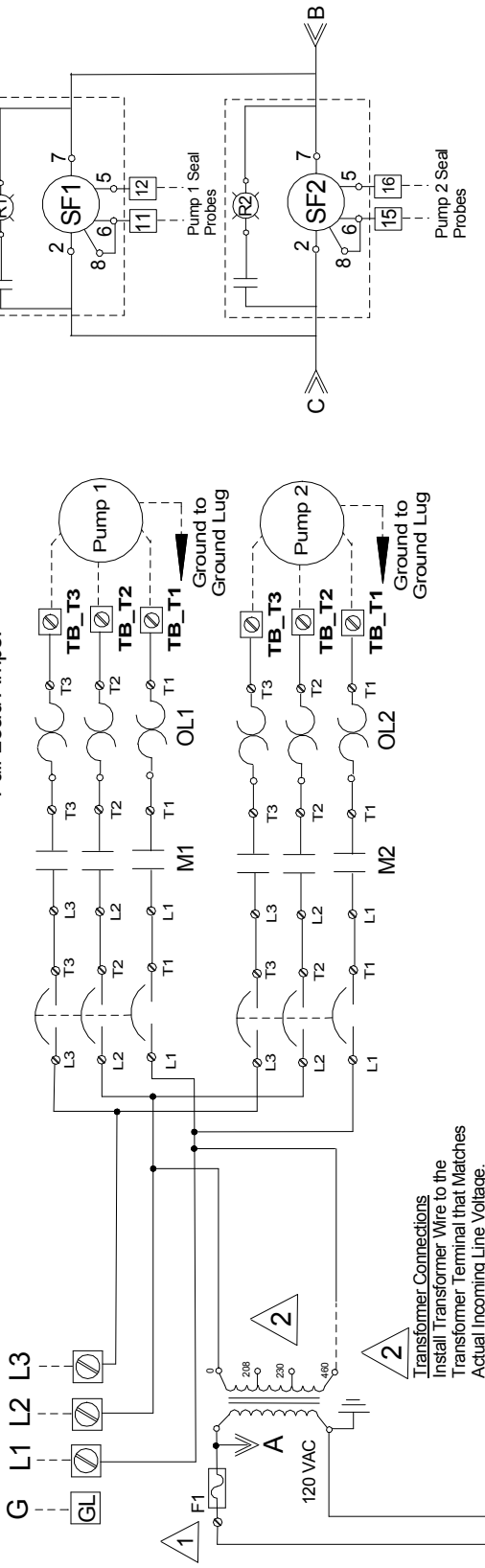


Phone 925.754.5686 Fax 925.754.5691
 Email Sales@Tomikolnc.com
 PO Box 8056, Pittsburg, CA 94565

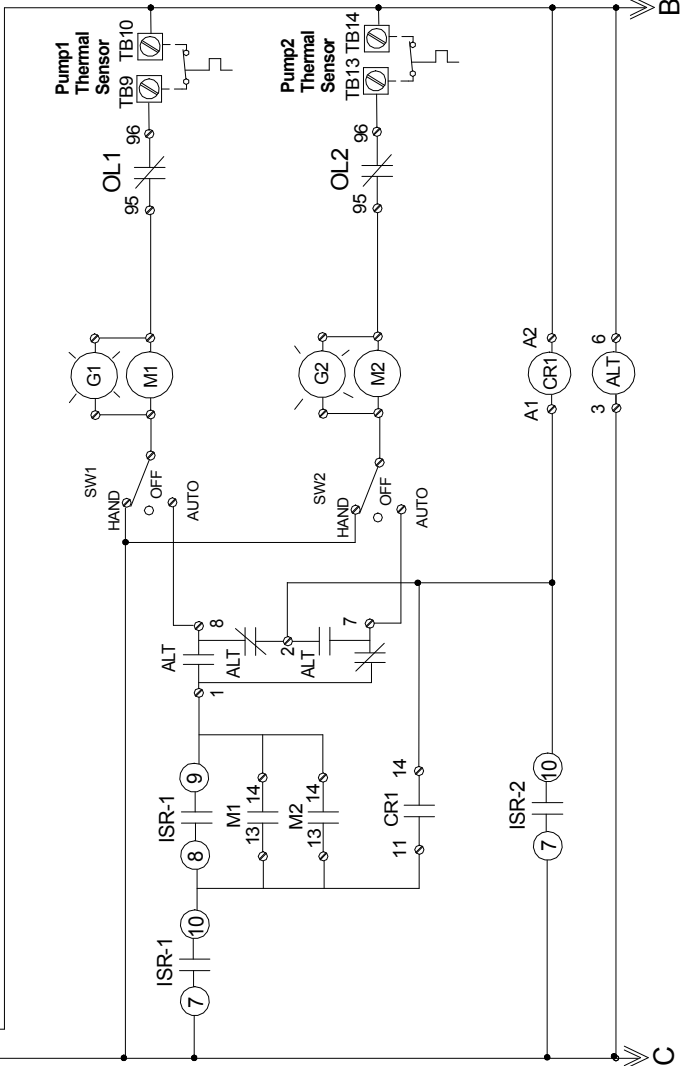
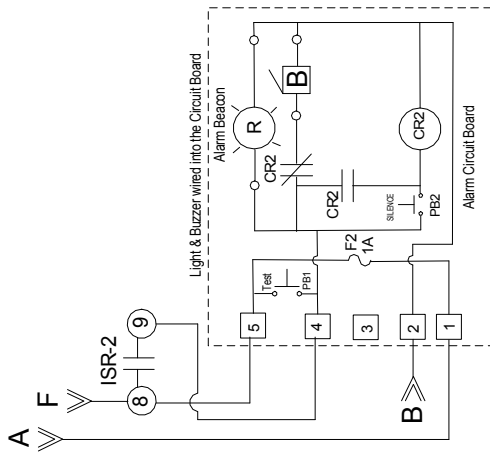
NOTES: 1. WARNING! Electrical Shock Hazard! Disconnect power before servicing this product. A qualified service person must install and service this product according to applicable electrical and plumbing codes.
 2. Install in accordance with National Electric Code, NFPA 70. Seal all boxes, fittings and conduit with appropriate seal devices to prevent moisture and gases from entering enclosure.
 3. Connect all grounds to a good ground. 4. Dashed lines represent field wiring - Use only 60 deg C Copper Wire

Incoming Power
 208/230/460VAC
 60HZ

Pump Load
 208/230/60VAC, 5.4-23 FLA
 Adjust MPS & Overload to Actual
 Full Load Amps.



Transformer Connections
 Install Transformer Wire to the
 Transformer Terminal that Matches
 Actual Incoming Line Voltage.



Phone 925.754.5686 **Fax** 925.754.5691
Email Sales@TomikoInc.com
 PO Box 8056, Pittsburg, CA 94566

DWG # D32WLH-IS-SFT **REV:** A
DATE: 09/26/07 **SHEET:** 1 OF 2
TITLE: D32WLH-IS-SFT

Quote: NA
DRAWN BY: B. Klabunde
LINE VOLTAGE: 208/230/460
PHASE: 3
HERTZ: 60

AVG. OR CIRCULAR MILL SIZE	SCREW DRIVER	TIGHTENING TORQUE IN INCH POUNDS	EXTERNAL DRIVE WRENCH
14		35	75
12		35	75
10		35	75
8		40	75
6		45	110
4		45	110
2		50	150
1		50	150
1/0		50	180
2/0		50	180

FIELD WIRING TERMINAL BLOCK

1 F1 & F2 FUSES MUST BE REPLACED WITH 1 AMP TYPE AGC FAST ACTING 250 V MAX.

CR	Control Relay
SW	HOA Switch
G	Pump Run Indicator
M	Magnetic Contactor
MPS	Motor Protective Switch
ALT	Alternating Relay
OLR	Overload Relay
R	Alarm Beacon
B	Alarm Buzzer
PB	Push Button
GL	Ground Lug
R1,2	Seal Fail Indicator
SF1,2	Seal Fail Relay

