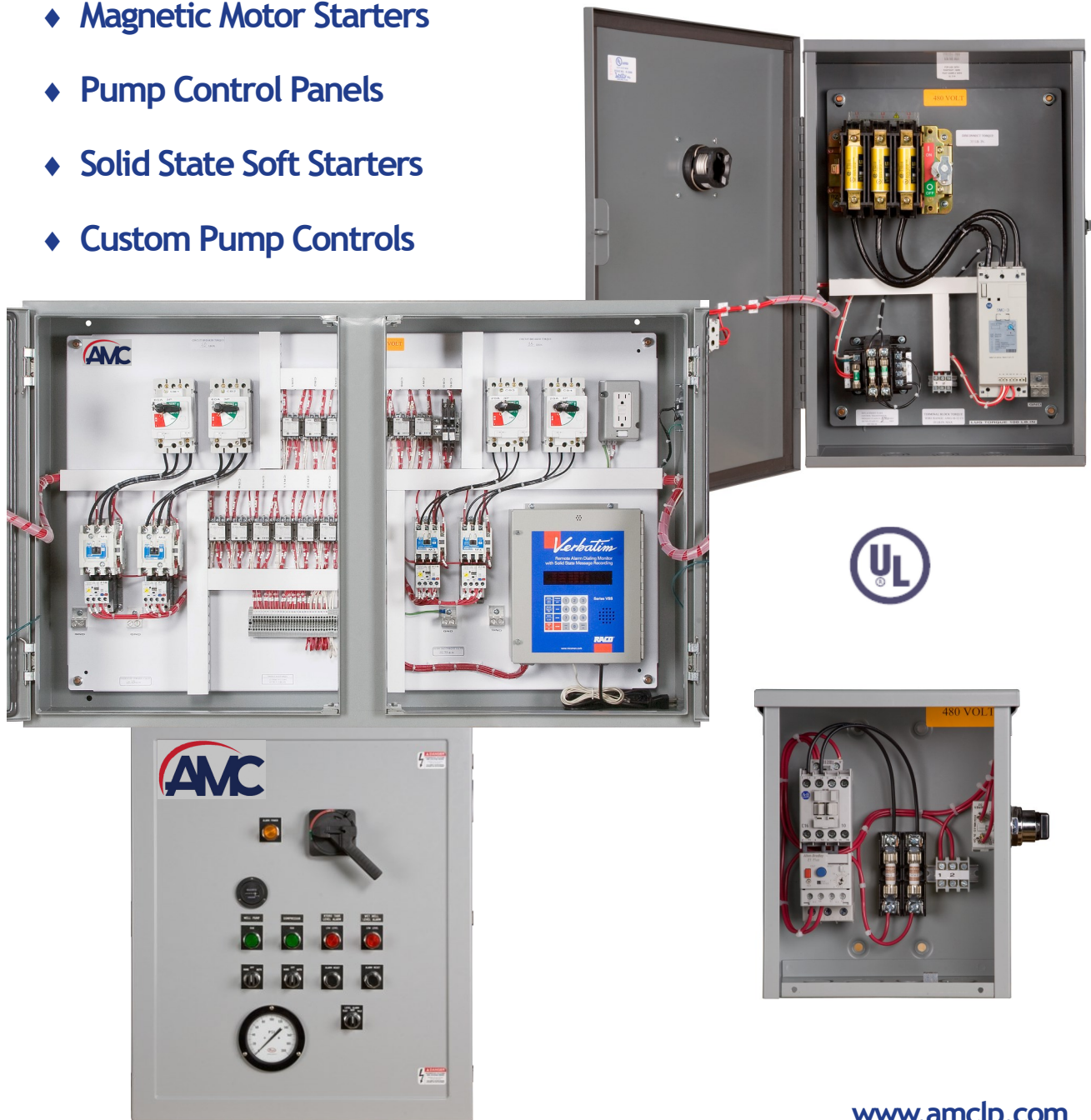




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- ◆ Pump Control Panels
- ◆ Solid State Soft Starters
- ◆ Custom Pump Controls



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Publication ICP-V24b

# Control Panels for Water and Wastewater Pumps

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**APPLIED MOTOR CONTROLS** is highly specialized in designing and building standard and custom-built **UL LISTED** pump control panels for use almost exclusively in water and waste water applications.

Our people's **experience** in, and dedication to, the water pumping industry; affords us a great deal of understanding of these applications, its requirements, and its market needs.

Applied Motor Controls builds **quality** pump control panels that provide superior protection and controls for municipal water systems, sewage lift stations, agricultural and turf irrigation, domestic water systems, contract dewatering, and most water pumping applications.

**APPLIED MOTOR CONTROLS** pump control panels are engineered to the latest standards of safety, and built with a high degree of craftsmanship. Uncluttered panel layouts allow for reasonable working space which can significantly simplify installation, commissioning and service.

Our **ONLY** business is pump control panels. **Since 2003** we have dedicated all of our resources to providing solutions for the water pumping industry.

YOU can rely on AMC—APPLIED MOTOR CONTROLS for well-built pump panels.

*Experience Reliability*



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# Magnetic Motors Starters

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Shown with Hand/off/Auto Selector Switch

## Product Description

**Full Voltage** - or Direct-on-Line - Motor Starters are designed to connect motors directly to the full motor voltage.

These starters provide the maximum torque in those applications where inrush current restrictions do not prevent their use.

Since the current drawn from the power lines by a motor started across-the-line is typically 600% of normal full load amps (running current), the current demand could cause unacceptable line voltage dips and potential brownouts.

In addition to high starting currents, the motor produces a starting torque which is higher than full load torque; thus, motors started across-the-line must be capable of withstanding the impact of the starting torque.

## Standard Features

- Fully welded heavy-duty steel enclosure with screwed-on door and padlocking hasp
- Type 3R rating suitable for use outdoors. Rain and sleet resistant
- Top and Bottom mounting holes
- Concentric Conduit Knock-Outs at bottom of enclosure for power and controls wiring conduits
- Light Gray powder-coating finish suitable for use in outdoors environments
- Full Voltage Magnetic Motor Starter with optional choice of coil voltage
- Solid State Class 10 Overload Relay with adjustable trip point and inherent protection against loss of phase
- Suitable for use with submersible and above ground motors
- UL 508 Listed Industrial Controls
- Grounding Lug

## Hand-Off-Auto (HOA) Switch Option

- Heavy Duty type 3R Selector Switch for selection of pump operating mode
- Fast-Acting Supplementary Fuses for protection of internal and external control circuit wiring against damage due to short circuits and ground faults

60 Hertz Motor		Starter Only		Starter with H-O-A Switch	
Motor Voltage	Horse Power Range	Part Number	List Price	Part Number	List Price
230V 1-Ph	1...2	FMSC16L16S	\$650	FMSC16L16SH	\$920
	2...5	FMSC30L45S	\$890	FMSC30L45SH	\$1160
	2...7-1/2	FMSC43L45S	\$1020	FMSC43L45SH	\$1290
	5...10	FMSC60L90S	\$1210	FMSC60L90SH	\$1480
	5...15	FMSC85L90S	\$1350	FMSC85L90SH	\$1620
200V 3-Ph	1...3	FMSC16L16	\$650	FMSC16L16H	\$920
	3...7-1/2	FMSC30L45	\$890	FMSC30L45H	\$1160
	3...10	FMSC43L45	\$1020	FMSC43L45H	\$1290
	7-1/2...15	FMSC60L90	\$1210	FMSC60L90H	\$1480
	7-1/2...20	FMSC85L90	\$1350	FMSC85L90H	\$1620
230V 3-Ph	1...3	FMSC16L16	\$650	FMSC16L16H	\$920
	3...7-1/2	FMSC30L45	\$890	FMSC30L45H	\$1160
	3...10	FMSC43L45	\$1020	FMSC43L45H	\$1290
	7-1/2...20	FMSC60L90	\$1210	FMSC60L90H	\$1480
	7-1/2...25	FMSC85L90	\$1350	FMSC85L90H	\$1620
460V 3-PH	2...7-1/2	FMSC16B16	\$650	FMSC16B16H	\$920
	7-1/2...15	FMSC30B45	\$890	FMSC30B45H	\$1160
	7-1/2...25	FMSC43B45	\$1020	FMSC43B45H	\$1290
	15...40	FMSC60B90	\$1210	FMSC60B90H	\$1480
	15...50	FMSC85B90	\$1350	FMSC85B90H	\$1620

1. Starter Coil Voltage is same as line voltage. Optional coil voltages available.
2. Call factory for HP and Voltages not shown
3. See Pages 11 & 12 for Options
4. For Start/Stop Pushbutton in lieu of the H-O-A Switch, Substitute suffix "H" with "SS"





## Standard Features

- Type 3R enclosure for use outdoors. Rain and sleet resistant. Fully welded steel construction with hinged door and provisions for padlocking
- Light Gray powder-coating finish suitable for use in outdoors environments
- Choice of power disconnect type: Fusible Switch, or Circuit Breaker
- Fusible Disconnect Switches include factory-installed J-Class time-delay dual-element current-limiting power fuses
- Through the door rotary disconnect operator with provisions for padlocking in the off position
- Full Voltage Magnetic Motor Starter with optional choice of coil voltage
- Solid State Class 10 Overload Relay with adjustable trip point and inherent protection against loss of phase
- Suitable for use with submersible and above ground motors
- Fast-Acting Supplementary Fuses for protection of internal and external control circuit wiring against damage due to short circuits and ground faults
- 30mm Hand-Off-Auto Selector Switch
- UL 508 Listed Industrial Controls
- Suitable for use as Service Equipment

## Product Description

An Across-the-Line pump control panel is a “combination starter” which combines a full voltage magnetic starter along with a fusible switch or a circuit breaker disconnect.

AMC pump panel line offers protection against short circuit faults, protection against motor overload faults, and means of disconnecting the controller and the motor from the supply power.

Across-the-Line starters are designed to connect motors directly to the full motor voltage and provide the maximum torque in those applications where inrush current restrictions do not prevent their use.

Since the current drawn from the power lines by a motor started across-the-line is typically 600% of normal full load amps (running current), power companies are increasingly limiting the use of full voltage starters to specific HP ranges.

60 Hz Motor		Fusible Switch Type		Circuit Breaker Type	
Motor Voltage	Horse Power Range	Part Number	List Price	Part Number	List Price
230V 1-phase	1...1-1/2	P1.5231FVFR	\$ 1790	P1.5231FVCR	\$ 2100
	2...3	P3231FVFR	\$ 2020	P3231FVCR	\$ 2340
	5...7-1/2	P7.5231FVFR	\$ 2480	P7.5231FVCR	\$ 2650
	10	P10231FVFR	\$ 3190	P10231FVCR	\$ 3480
	15	P15231FVFR	\$ 3590	P15231FVCR	\$ 3910
200V 3-phase	1...1-1/2	P1.5203FVFR	\$ 1790	P1.5203FVCR	\$ 2100
	2...3	P3203FVFR	\$ 1790	P3203FVCR	\$ 2100
	5...7-1/2	P7.5203FVFR	\$ 2480	P7.5203FVCR	\$ 2650
	10...15	P15203FVFR	\$ 3190	P15203FVCR	\$ 3480
	20...25	P25203FVFR	\$ 3590	P25203FVCR	\$ 3910
230V 3-Phase	1...1-1/2	P1.5233FVFR	\$ 1790	P1.5233FVCR	\$ 2100
	2...3	P3233FVFR	\$ 1790	P3233FVCR	\$ 2100
	5...7-1/2	P7.5233FVFR	\$ 2020	P7.5233FVCR	\$ 2340
	10...15	P15233FVFR	\$ 2480	P15233FVCR	\$ 2650
	20	P20233FVFR	\$ 3190	P20233FVCR	\$ 3480
	25	P25233FVFR	\$ 3260	P25233FVCR	\$ 3560
460V 3-phase	1...1-1/2	P1.5463FVFR	\$ 1790	P1.5463FVCR	\$ 2100
	2...3	P3463FVFR	\$ 1790	P3463FVCR	\$ 2100
	5...7.5	P7.5463FVFR	\$ 1790	P7.5463FVCR	\$ 2100
	10...15	P15463FVFR	\$ 2020	P15463FVCR	\$ 2340
	20...25	P25463FVFR	\$ 2230	P25463FVCR	\$ 2430
	30	P30463FVFR	\$ 2480	P30463FVCR	\$ 2650
	40...50	P50463FVFR	\$ 3260	P50463FVCR	\$ 3560
	60	P60463FVFR	\$ 3590	P60463FVCR	\$ 3910

1. Fusible Type Panels include factory-installed J-Class Power Fuses
2. Unless otherwise specified, Starter Coil Voltage is same as line voltage
3. Call factory for HP and Voltages not shown
4. See Pages 11 & 12 for Options





## Product Description

A Reduced Voltage Solid State Soft Starter pump control panel is a “combination starter” which combines a Solid State Motor Controller along with a fusible switch or a circuit breaker.

AMC soft start pump panels offer protection against short circuit faults, protection against motor overload faults, and means of disconnecting the motor and the controller from the power supply lines

Reduced Voltage Solid State motor starters are widely used in applications where reduced voltage starting is desired, or where the supplied power restricts the increments of current drawn from the supply lines.

These solid state controllers provide selectable and adjustable starting and stopping parameters making them suitable for use in a wide range of applications.

## Standard Features

- Fully welded heavy-duty steel enclosure with gasketed hinged door and provisions for padlocking
- Type 3R rating suitable for use outdoors. Rain and sleet resistant. Weatherproof
- Light Gray powder-coating finish suitable for use in outdoors environments
- Choice of power disconnect type: Fusible Switch, or Circuit Breaker
- Fusible Disconnect Switches include factory-installed J-Class time-delay dual-element current-limiting power fuses
- Through the door rotary disconnect operator with provisions for padlocking in the off position
- Soft Start Solid State Motor Controller with Built-In SCR Bypass Contactor
- Electronic Motor Overload Protection
- 120V Control Circuit Transformer with primary and secondary protective fuses
- Hand-Off-Auto Selector Switch
- Terminal Block for ease of wiring to and from a remote control device
- UL 508 Listed Industrial Controls
- Suitable for use as Service Equipment



3 Phase Motor		Fusible Switch Type		Circuit Breaker Type	
Motor Voltage	Maximum Horse Power	Part Number	List Price	Part Number	List Price
230V 60HZ	10	P10233SSFERS	\$ 7250	P10233SSCRS	\$ 7940
	15	P15233SSFERS	\$ 7280	P15233SSCRS	\$ 7960
	20	P20233SSFERS	\$ 8700	P20233SSCRS	\$ 9480
	25	P25233SSFERS	\$ 8700	P25233SSCRS	\$ 9480
	30	P30233SSFERS	\$ 8900	P30233SSCRS	\$ 9700
	40	P40233SSFERS	\$ 16300	P40233SSCRS	\$ 18210
	50	P50233SSFERS	\$ 16300	P50233SSCRS	\$ 18210
	60	P60233SSFERS	\$ 18700	P60233SSCRS	\$ 20900
460V 60HZ	15	P15463SSFERS	\$ 5700	P15463SSCRS	\$ 6100
	20	P20463SSFERS	\$ 7250	P20463SSCRS	\$ 7940
	25	P25463SSFERS	\$ 7280	P25463SSCRS	\$ 7960
	30	P30463SSFERS	\$ 7280	P30463SSCRS	\$ 7960
	40	P40463SSFERS	\$ 8700	P40463SSCRS	\$ 9480
	50	P50463SSFERS	\$ 8700	P50463SSCRS	\$ 9480
	60	P60463SSFERS	\$ 8900	P60463SSCRS	\$ 9700
	75	P75463SSFERS	\$ 13600	P75463SSCRS	\$ 14830
	100	P100463SSFERS	\$ 16300	P100463SSCRS	\$ 18210
	125	P125463SSFERS	\$ 18700	P125463SSCRS	\$ 20900
	150	P150463SSFERS	\$ 21500	P150463SSCRS	\$ 24100
	200	P200463SSFERS	\$ 24380	P200463SSCRS	\$ 27240

1. Fusible Type Panels include J-Class Power Fuses
2. Contact AMC for use with Submersible Motor applications.
3. Contact AMC for HP and Voltages not shown
4. See Pages 11 & 12 for Options



## Product Description

A Part-Winding pump control panel is a “combination starter” which combines a part-winding magnetic starter along with a fusible switch or a circuit breaker.

AMC pump panel line offers protection against short circuit faults, protection against motor overload faults, and means of disconnecting the motor and the controller from the power supply lines

Part-Winding motor starters (or two-step starters) provide economical reduced current starting in applications where the supplied power restricts the increments of current drawn from the lines, and a simple method of accelerating loads with low starting torque.

These controllers require a motor suitable for Part-Winding Starting.

## Standard Features

- Fully welded heavy-duty steel enclosure with gasketed hinged door and provisions for padlocking. Gray powder-coating finish suitable for use in outdoors environments
- Type 3R rating suitable for use outdoors. Rain and sleet resistant. Top and bottom brackets for wall or pole mounting
- Choice of power disconnect type: Fusible Switch, or Circuit Breaker
- Fusible Disconnect Switches include factory-installed J-Class time-delay dual-element current-limiting power fuses
- Through the door disconnect operator with provisions for padlocking in the off position
- Part-Winding Magnetic Motor Starter with choice of coil voltage
- (2) Solid State Class 10 Overload Relays with adjustable trip point and inherent protection against loss of phase
- Fast-Acting Supplementary Fuses for protection of internal and external control circuit wiring against damage due to short circuits and ground faults
- Hand-Off-Auto Selector Switch
- Terminal Block for ease of wiring to and from a remote control device
- UL 508 Listed Industrial Controls
- Suitable for use as Service Equipment

3 Phase Motor		Fusible Switch Type			
Motor Voltage	Maximum Horse Power	Part Number	List Price		
230V 60HZ	10	P10233PWFR	\$ 4360		
	15	P15233PWFR	\$ 4590		
	20	P20233PWFR	\$ 5300		
	25	P25233PWFR	\$ 5300		
	30	P30233PWFR	\$ 5950		
	40	P40233PWFR	\$ 7260		
	50	P50233PWFR	\$ 7600		
	60	P60233PWFR	\$ 8060		
460V 60HZ	20	P20463PWFR	\$ 4360		
	25	P25463PWFR	\$ 4360		
	30	P30463PWFR	\$ 4590		
	40	P40463PWFR	\$ 5300		
	50	P50463PWFR	\$ 5300		
	60	P60463PWFR	\$ 5950		
	75	P75463PWFR	\$ 7260		
	100	P100463PWFR	\$ 7600		
	125	P125463PWFR	\$ 8060		
	150	P150463PWFR	\$ 15300		
	200	P200463PWFR	\$ 18180		

1. Fusible Type Panels include J-Class Power Fuses
2. Unless otherwise specified, Starter Coil Voltage is same as line voltage
3. Call factory for HP and Voltages not shown
4. See Pages 11 & 12 for Options

Description	Option Code	List Price
<b>Control Circuit Transformer</b> With Primary & Secondary Protective Fuses		
208/240/480 - 120V @ 50VA	CT50	\$ 520
208/240/480 - 120V @ 100VA	CT100	\$ 580
208/240/480 - 120V @ 150VA	CT150	\$ 610
208/240/480 - 120V @ 300VA	CT300	\$ 690
208/240/480 - 120V @ 500VA	CT500	\$ 780
<b>Interposing Relay</b> For separate control voltage input (* ** Specify required Voltage when ordering)	IR-**	Contact AMC
<b>Time Delay Relay, Solid State</b> (* ** Specify required function when Ordering) Note: This option requires a control circuit transformer	TD-**	Contact AMC
<b>Programmable Time Clock</b> 24 Hour, 7 Day function Note: This option requires a control circuit transformer	TC	Contact AMC
<b>Liquid Level Relay, Solid State</b> (* ** Specify required function when ordering) Note: This option requires a control circuit transformer	LLR-**	Contact AMC
<b>Indicating Light</b> Specify Function and Lens color when ordering (ie: run/red)	PL-**	Contact AMC
<b>Electronic Programmable Overload Relay</b> Protects 3 Phase Motors against: Overload, Underload, High Voltage, Low Voltage, Loss of Phase, Phase Reversal, Phase & Voltage, Unbalance, Rapid Cycling, and Ground Fault		
Motor Full Load Amps: 2 - 90 Amps	DEOL	Contact AMC
Motor Full Load Amps: 91 - 600 Amps (includes current transformers)	CTEOL	Contact AMC

Description	Option Code	List Price
<b>Phase &amp; Voltage Monitor</b> Protects Three Phase motors against: High Voltage, Low Voltage, Phase Reversal, Loss of Phase, and Unbalance	PMR	Contact AMC
<b>Surge Protective Device</b> Offers a degree of protection against damage due to lightning strikes	SPD	Contact AMC
<b>Low Suction Cut-Off</b> Option includes a Terminal Block for remote pressure switch, a Red Indicating Light, and a Timing Relay to prevent nuisance tripping Note: This option requires a Control Circuit Transformer	LSC	Contact AMC
<b>High Pressure Shutdown</b> Option includes a Terminal Block for remote pressure switch, a Red Indicating Light, and manual Reset Pushbutton Note: This option requires a Control Circuit Transformer	HPS	Contact AMC
<b>Cycle Counter, Digital</b> Records number of times a motor has been called to run Note: This option requires a control circuit transformer	CC	Contact AMC
<b>Elapsed Hour Meter, Electro Mechanical</b> Records motor running time in Hours, Non Reset, 99999.9 Hours Note: This option requires a control circuit transformer	ETM	Contact AMC
<b>NEMA Type 4 Steel Enclosure</b> Water & Dust-Tight, Outdoors	N4	Contact AMC
<b>NEMA Type 4X Stainless Steel Enclosure</b> Water & Dust-Tight, Outdoors, Corrosion-Resistant	N4XS	Contact AMC
<b>NEMA Type 4X Fiberglass-Reinforced Polyester Enclosure</b> Water & Dust-Tight, Outdoors, Corrosion-Resistant	N4XF	Contact AMC
<b>Starter Auxiliary Contacts</b> 1 N/O & 1N/C contacts interlocked with starter  Specify if contacts are to be “dry” or “powered”	AUX	Contact AMC



# Duplex Alternating Pump Control Panels



## Product Description

Duplex Pump Controls Panels are designed to operate and control two pump motors on single system.

These panels are widely used in those applications where maintaining a specific system pressure is required.

Applied Motor Controls' standard duplex pump panel is designed to provide both "alternating" and "duplexing" modes.

**Alternating mode:** This function provides for relatively equal wear of the two pump motors, typically of the same HP rating, driven by the controller by reversing the "Lead" and "Lag" roles of the motors on each successive cycle. Automatic alternation is accomplished when one or both motors come to a stop.

**Duplexing mode:** This mode provides stand-by capacity for use of a second pump motor when the system demand exceeds the normal requirements of a single motor, or when one of the motors fail.

### NOTE:

For options and voltages not listed, please contact AMC.  
We offer a wide range of options to meet specific requirements

## Standard Features

- Fully welded heavy-duty steel enclosure with gasketed hinged door and provisions for padlocking
- Type 3R rating suitable for use outdoors. Rain and sleet resistant. Weatherproof
- Light Gray powder-coating finish suitable for use in outdoors environments
- Power Terminal Block for termination of line supply cables
- Choice of two disconnects: Fusible Switches with J-Class Factory-installed power fuses, or Thermal-Magnetic Molded Case Circuit Breakers
- (2) Through the door disconnect operators with provisions for padlocking in the off position
- (2) Full Voltage Magnetic Motor Starters with 120VAC coil voltage
- (2) Solid State Class 10 Overload Relays with adjustable trip point and inherent protection against loss of phase
- Solid State Duplex Alternator with Alternating and Duplexing functions
- 120V Control Circuit Transformer with primary and secondary protective fuses
- (2) Hand-Off-Auto Selector Switches
- (2) Terminal Blocks for two remote pressure switches
- UL 508 Listed Industrial Controls

# Duplex Alternating Pump Control Panels

3 Phase Motor		Fusible Switch Type		Circuit Breaker Type	
Motor Voltage	Maximum Horse Power	Part Number	Price	Part Number	Price
200V 60HZ	3	DP3203FVFR	Contact AMC	DP3203FVCR	Contact AMC
	5	DP5203FVFR	Contact AMC	DP5203FVCR	Contact AMC
	7 - 1/2	DP7203FVFR	Contact AMC	DP7203FVCR	Contact AMC
	10	DP10203FVFR	Contact AMC	DP10203FVCR	Contact AMC
	15	DP15203FVFR	Contact AMC	DP15203FVCR	Contact AMC
	20	DP20203FVFR	Contact AMC	DP20203FVCR	Contact AMC
	25	DP25203FVFR	Contact AMC	DP25203FVCR	Contact AMC
230V 60HZ	3	DP3233FVFR	Contact AMC	DP3233FVCR	Contact AMC
	5	DP5233FVFR	Contact AMC	DP5233FVCR	Contact AMC
	7 - 1/2	DP7233FVFR	Contact AMC	DP7233FVCR	Contact AMC
	10	DP10233FVFR	Contact AMC	DP10233FVCR	Contact AMC
	15	DP15233FVFR	Contact AMC	DP15233FVCR	Contact AMC
	20	DP20233FVFR	Contact AMC	DP20233FVCR	Contact AMC
	25	DP25233FVFR	Contact AMC	DP25233FVCR	Contact AMC
460V 60HZ	3	DP3463FVFR	Contact AMC	DP3463FVCR	Contact AMC
	5	DP5463FVFR	Contact AMC	DP5463FVCR	Contact AMC
	7 - 1/2	DP7463FVFR	Contact AMC	DP7463FVCR	Contact AMC
	10	DP10463FVFR	Contact AMC	DP10463FVCR	Contact AMC
	15	DP15463FVFR	Contact AMC	DP15463FVCR	Contact AMC
	20	DP20463FVFR	Contact AMC	DP20463FVCR	Contact AMC
	25	DP25463FVFR	Contact AMC	DP25463FVCR	Contact AMC
	30	DP30463FVFR	Contact AMC	DP30463FVCR	Contact AMC
	40	DP40463FVFR	Contact AMC	DP40463FVCR	Contact AMC
	50	DP50463FVFR	Contact AMC	DP50463FVCR	Contact AMC

1. Fusible Type Panels include J-Class Power Fuses
2. Unless otherwise specified, Starters Coil Voltage 120VAC
3. Call factory for HP and Voltages not shown
4. See Pages 15 & 16 for Options



Description	Option Code	List Price
<b>Low Suction Cut-Off</b> Option includes a terminal block for remote pressure switch, a Red Indicating Light, and a Timing Relay	LSC	Contact AMC
<b>Low Pressure Alarm</b> Option includes a terminal block for remote pressure switch, a Red Indicating Light, and a Timing Relay	LSP	Contact AMC
<b>High Pressure Shutdown</b> Option includes a terminal block for remote pressure switch, a Red Indicating Light, and manual Reset Pushbutton	HPS	Contact AMC
<b>Interposing Relay</b> For use with separate control voltage ( ** Indicate required Voltage when ordering)	IR-**	Contact AMC
<b>Time Delay Relay</b> ( ** Indicate required function when Ordering)	TD-**	Contact AMC
<b>Programmable Time Clock</b> 24 Hour, 7 Day function	TC	Contact AMC
<b>Elapsed Hour Meter</b> 99999.9 Hours, Non Reset Qty (2)	ETM	Contact AMC
<b>Cycle Counter</b> 6 Digits, Non Reset Qty (2)	CC	Contact AMC
<b>Indicating Light</b> ( ** Indicate Lens color and Function when ordering)	PL-**	Contact AMC

Description	Option Code	List Price
<b>Phase &amp; Voltage Monitor</b> Protects 3-Phase motors against: High Voltage, Low Voltage, Phase Reversal, Loss of Phase, and Unbalance	PMR	Contact AMC
<b>Surge Protective Device</b>	SPD	Contact AMC
<b>Starter Auxiliary Contacts—DRY</b> Option includes 1-N.O. & 1-N.C. Auxiliary Dry Contacts for interfacing with remote monitoring Quantity Two Sets (one per starter)	PAUX	Contact AMC
<b>Starter Auxiliary Contacts-POWERED</b> Option includes 1-N.O. Auxiliary Powered Contact for interfacing with remote load (i.e.: chemical feed pump) Quantity Two Sets (one per starter)	DAUX	Contact AMC
<b>Electronic Programmable Overload Relay, Motor Saver 777</b> Protects 3-Phase Motors against: Overload, Underload, High Voltage, Low Voltage, Loss of Phase, Phase Reversal, Phase & Voltage Unbalance, Rapid Cycling, and Ground Fault Quantity Two  <p style="text-align: center;"><u>Motor Full Load Amps:</u></p> <p style="text-align: center;">2 - 90 Amps</p>	DEOL	Contact AMC
<b>External Electric Reset Pushbutton for Motor Saver 777</b> Quantity Two	EOLR	Contact AMC
<b>Deduct for Auto Duplex Alternator</b>	NALT	Contact AMC
<b>Terminal Block</b> 3P, 600V, 30 AMPS (Specify Function)	TB	Contact AMC

# Simplex Lift Station Pump Panels (Level Control)



## Product Description

Simplex Lift Station Pump Control Panels are designed to control the level in a municipal or industrial de-watering Lift Station housing a single pump.

When the level rises to a predetermined level, as sensed by an external level sensor (ie: float switch), the pump is turned on. As the level recedes to a predetermined level, as sensed by a level sensor, the pump is turned off.

A “Simplex” panel consist of a single across-the-line combination motor starter which provides protection against short circuit faults, motor overload faults, motor disconnecting means, and means to automatically turning the pump motor on/off.

Typical applications include sewage lift stations, storm drain lift station, or any installation where de-watering is required.

Applied Motor Controls’ Simplex Lift Station Pump Panels can be designed to incorporate a wide selection of power, monitoring and control options meant to enhance the protection or performance of the pump, or to meet the most demanding job specifications.

## Standard Features

- UL 508 Listed Industrial Control serialized label
- UL type 3R Outdoor Painted Steel Enclosure Fully gasketed hinged door with provision for padlocks
- Top and bottom brackets for wall or pole mounting
- Gray powder-coating finish suitable for use in harsh environments
- Molded Case Circuit Breaker with Thermal-Magnetic Trip (Optional Fusible Switch with Fuses available)
- External Handle mechanism interlocked to door for Circuit Breaker. Handle features provisions for up to 3 padlocks when in the “off”, and prevents door opening when in the “on” position
- Full Voltage Magnetic Motor Starter with 120VAC coil
- Solid State Overload Relay with adjustable trip point and inherent protection against loss of phase
- 120V Control Circuit Transformer with primary & secondary protective fuses
- Hand-Off-Auto Selector Switch
- Terminal Blocks for two remote Float Switches: Pump Off, Pump On
- Grounding Lug

## NOTE:

For options and voltages not listed, please contact AMC.  
We offer a wide range of options to meet specific requirements



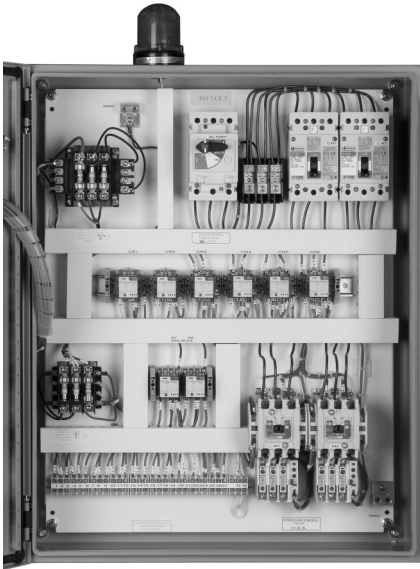
# Simplex Lift Station Pump Panels

3 Phase Motor			
Motor Voltage	Maximum Horse Power	Part Number	Price
230V 60HZ	1	SPX1233C	Contact AMC
	1 - 1/2	SPX1.5233C	Contact AMC
	2	SPX2233C	Contact AMC
	3	SPX3233C	Contact AMC
	5	SPX5233C	Contact AMC
	7-1/2	SPX7233C	Contact AMC
	10	SPX10233C	Contact AMC
	15	SPX15233C	Contact AMC
	20	SPX20233C	Contact AMC
	25	SPX25233C	Contact AMC
460V 60HZ	1	SPX1463C	Contact AMC
	1 - 1/2	SPX1.5463C	Contact AMC
	2	SPX2463C	Contact AMC
	3	SPX3463C	Contact AMC
	5	SPX5463C	Contact AMC
	7 - 1/2	SPX7463C	Contact AMC
	10	SPX10463C	Contact AMC
	15	SPX15463C	Contact AMC
	20	SPX20463C	Contact AMC
	25	SPX25463C	Contact AMC
	30	SPX30463C	Contact AMC
	40	SPX40463C	Contact AMC
	50	SPX50463C	Contact AMC

Description	Option Code	List Price
<b>Dead-front Enclosure Construction</b> Tamper-proof design with Swing-out inner door and Lockable outer door	A	Contact AMC
<b>NEMA/UL Type 4 Enclosure</b> Steel, Water & Dust-Tight, Indoor/Outdoor use	B	Contact AMC
<b>NEMA/UL Type 4X</b> Fiberglass-Reinforced Polyester, Water & Dust-Tight, Indoor/Outdoor use, Corrosion-Resistant	C	Contact AMC
<b>NEMA/UL Type 4X</b> 304 Stainless Steel, Water & Dust-Tight, Indoor/Outdoor, Corrosion-Resistant	D	Contact AMC
<b>Anti-Condensation Cabinet Heater</b> 100 Watt, Fan-Driven, with integral adjustable thermostat	E	Contact AMC
<b>Elapsed Hour Meter</b> 99999.9 Hours, Non-Reset, door mounted	F	Contact AMC
<b>Pump Running Indicating Light</b> Green Lens, door mounted	G	Contact AMC
<b>Auxiliary Contacts</b> 1-N.O./1-N.C. for remote monitoring of pump status	H	Contact AMC
<b>Motor Seal Failure Indicating Light</b> Amber Lens, door mounted - Option requires Moisture Detecting Relay	I	Contact AMC
<b>Moisture Detecting Relay</b> Relay Monitors a Seal Failure condition in the motor. Unless otherwise specified, the standard design will not shut-down pump.	J	Contact AMC

Description	Option Code	List Price
<b>Motor Over-Temperature Shutdown</b> Terminal Block for thermal switch in motor. Motor shutdown with auto reset	K	Contact AMC
<b>Motor Over-Temperature Indicating Light</b> Relay and Red Indicating Light, door mounted, auto reset	L	Contact AMC
<b>Time Delay Relay</b> Solid State, Multi-Function (on-delay, off-delay, single-shot, recycling)	M	Contact AMC
<b>Phase &amp; Voltage Monitor</b> Protection against Low & High Voltage, Unbalance, Phase Loss & Reversal	N	Contact AMC
<b>Surge/Lightning Protective Device</b>	O	Contact AMC
<b>High Water Alarm Beacon Light</b> NEMA type 4X, Top mounted, Red Beacon, Tamper-proof, Halogen Lamp	P	Contact AMC
<b>High Water Alarm Horn</b> NEMA type 4X, Side mounted, 103dB @ 10 Ft., adjustable output, with silencing pushbutton	Q	Contact AMC
<b>High Water Alarm Dry-Contact</b> 1-N.O. Contact for remote monitoring of alarm status	R	Contact AMC
<b>Convenience Receptacle</b> GFCI, 120V, 15 Amp, with weather-proof cover	S	Contact AMC
<b>Intrinsically Safe Relay:</b> Interfaces with on/off floats Note: A separate ISR is required for High or Low Water Alarm	T	Contact AMC
<b>Auxiliary Control Relay</b>	U	Contact AMC
<b>Push-to-Test Pilot Light</b>	V	Contact AMC

# Duplex Lift Station Pump Panels (Level Control)



Shown with Options

## Product Description

Duplex Lift Station Pump Control Panels are designed to control the level in a municipal or industrial de-watering Lift Station housing two pumps.

When the level rises to a predetermined level, as sensed by an external level sensor (ie: float switch), the “lead pump” is turned on first. As the level recedes to a predetermined level, as sensed by a level sensor, the lead pump is turned off and automatic alternation is accomplished.

In the event that the level continues to rise beyond the capacity of the lead pump, the “lag” pump is turned on, and both pumps will run simultaneously until the level recedes to the pumps off level as sensed by a level sensor.

Applied Motor Controls’ Duplex Lift Station Pump Panels can be designed to incorporate a wide selection of power and control options meant to enhance the protection and performance of the pumps, or to meet the most demanding specifications.

### NOTE:

For options and voltages not listed, please contact AMC.  
We offer a wide range of options to meet specific requirements

## Standard Features

- UL 508 Listed Industrial Control serialized label
- UL type 3R Outdoor Steel Enclosure Fully gasketed hinged door with provision for padlocks, and top & bottom brackets for wall or pole mounting
- Gray powder-coating finish suitable for use in harsh environments
- Power Terminal Block for termination of supply cables
- (2) Molded Case Circuit Breakers with Thermal-Magnetic Trip (Optional Fusible Switch with Fuses available)
- (2) External Handle mechanisms for Circuit Breakers. Handle features provisions for up to 3 padlocks when in the “off”, and prevents door opening when in the “on” position
- (2) Full Voltage Magnetic Motor Starters with 120VAC coil
- (2) Solid State Overload Relays with adjustable trip point and inherent protection against loss of phase and unbalance
- 120V Control Circuit Transformer with primary & secondary protective fuses
- Solid State Duplex Alternator
- (2) Hand-Off-Auto Selector Switches
- Terminal Blocks for three remote Float Switches: Pumps Off, Lead Pump On, Lag Pump On

# Duplex Lift Station Pump Panels

3 Phase Motor			
Motor Voltage	Maximum Horse Power	Part Number	List Price
230V 60HZ	1	DPX1233C	Contact AMC
	1 - 1/2	DPX1.5233C	Contact AMC
	2	DPX2233C	Contact AMC
	3	DPX3233C	Contact AMC
	5	DPX5233C	Contact AMC
	7-1/2	DPX7233C	Contact AMC
	10	DPX10233C	Contact AMC
	15	DPX15233C	Contact AMC
	20	DPX20233C	Contact AMC
	25	DPX25233C	Contact AMC
460V 60HZ	1	DPX1463C	Contact AMC
	1 - 1/2	DPX1.5463C	Contact AMC
	2	DPX2463C	Contact AMC
	3	DPX3463C	Contact AMC
	5	DPX5463C	Contact AMC
	7 - 1/2	DPX7463C	Contact AMC
	10	DPX10463C	Contact AMC
	15	DPX15463C	Contact AMC
	20	DPX20463C	Contact AMC
	25	DPX25463C	Contact AMC
	30	DPX30463C	Contact AMC
	40	DPX40463C	Contact AMC
	50	DPX50463C	Contact AMC



Description	Option Code	List Price
<b>Dead-front Enclosure Construction</b> Tamper-proof design with Swing-out inner door and Lockable outer door	A	Contact AMC
<b>NEMA/UL Type 4 Enclosure</b> Steel, Water & Dust-Tight, Indoor/Outdoor	B	Contact AMC
<b>NEMA/UL Type 4X Enclosure</b> Fiberglass-Reinforced Polyester, Water & Dust-Tight, Indoor/Outdoor, Corrosion-Resistant	C	Contact AMC
<b>NEMA/UL Type 4X Enclosure</b> 304 Stainless Steel, Water & Dust-Tight, Indoor/Outdoor, Corrosion-Resistant	D	Contact AMC
<b>Cabinet Heater</b> 100 Watt, Fan-Driven, with integral adjustable thermostat	E	Contact AMC
<b>Elapsed Hour Meters</b> Qty (2) 99999.9 Hours, Non-Reset, door mounted	F	Contact AMC
<b>Pump Running Indicating Lights</b> Qty (2) Green Lens, door mounted	G	Contact AMC
<b>Auxiliary Contacts</b> Qty (2) 1-N.O./1-N.C. for remote monitoring of pump status	H	Contact AMC
<b>Motor Seal Failure Indicating Lights</b> Qty (2) Amber Lens, door mounted - Option requires Moisture Detecting Relays	I	Contact AMC
<b>Moisture Detecting Relays</b> Qty (2) Relays Monitor a Seal Failure condition in the motor (s). Unless otherwise specified, the standard design will not shut-down pump (s).	J	Contact AMC

Description	Option Code	List Price
<b>Motor Over-Temperature Shutdown</b> Qty (2) Terminal Blocks for thermal switches in motor. Shutdown with auto reset	K	Contact AMC
<b>Motor Over-Temperature Indicating Lights</b> Qty (2) Relays and Red Indicating Lights, door mounted, auto reset	L	Contact AMC
<b>Time Delay Relay</b> Solid State, Multi-Function (on-delay, off-delay, single-shot, recycling)	M	Contact AMC
<b>Phase &amp; Voltage Monitor</b> Protection against Low & High Voltage, Unbalance, Phase Loss & Reversal	N	Contact AMC
<b>Surge/Lightning Protective Device</b>	O	Contact AMC
<b>High Water Alarm Beacon Light</b> NEMA type 4X, Top mounted, Red Beacon, Tamper-proof, Halogen Lamp	P	Contact AMC
<b>High Water Alarm Horn</b> NEMA type 4X, Side mounted, 103dB @ 10 Ft., adjustable output, with silencing pushbutton	Q	Contact AMC
<b>High Water Alarm Dry-Contact</b> 1-N.O. Contact for remote monitoring of alarm status	R	Contact AMC
<b>Convenience Receptacle</b> GFCI, 120V, 15 Amp, with weather-proof cover	S	Contact AMC
<b>Intrinsically Safe Controller</b> Interfaces with up to 5 Float Switches, integral alternator	T	Contact AMC
<b>Auxiliary Control Relay</b>	U	Contact AMC
<b>Push-to-Test Pilot Light</b>	V	Contact AMC

# Technical Information

## Enclosure Ratings

UL and NEMA are standard writing organizations commonly recognized in North America. Their ratings are based on similar application descriptions and expected performance. UL requires independent testing by qualified evaluators. NEMA, on the other hand, does not require independent testing and leaves compliance completely up to manufacturer.

## Standards

Enclosure Rating	NEMA (Standard 250)	UL (UL50 and UL508)
Type 1	Enclosures 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
Type 3	Enclosures intended for outdoor use primarily to provide a degree of protection against windblown dust, rain, and sleet. Undamaged by the formation of ice on the enclosure.	Outdoor use to provide a degree of protection against windblown dust and windblown rain. Undamaged by the formation of ice on the enclosure.
Type 3R	Enclosures 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.
Type 4	Enclosures 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.
Type 4X	Enclosures 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.
Type 12	Enclosures intended for indoor use primarily to provide a degree of protection against dust, falling dirt, and dripping non-corrosive liquids.	Indoor use to provide a degree of protection against dust, dirt, fiber flyings, dripping water, and external condensation of non-corrosive liquids.

# Terms & Conditions of Sale

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**Applied Motor Controls** (hereinafter called “Seller”) agrees to sell the goods covered herein on the following terms and conditions of sale. Any additional or different terms that may be contained in any documents furnished by the Buyer are hereby objected to and rejected. Buyer’s acceptance of the Goods will manifest Buyer’s assent to these terms and conditions.

1. **Warranty:** The Seller warrants its products and equipment to be free from defects in material and workmanship. If within ONE YEAR FROM DATE OF START UP, BUT NO MORE THAN EIGHTEEN MONTHS FROM THE ORIGINAL DATE OF SHIPMENT from Seller’s factory, any failure to conform with this warranty appears within such time, Seller shall, if given prompt notice by Buyer, correct such non-conformity either by repair or replacement of the non-conforming product or part, F.O.B. repair facility. **The seller is not responsible for damage to its products through normal wear and tear, improper installation, unauthorized alterations or repairs, lack of proper maintenance, improper use, or attempts to operate outside its rated capacity.**

2. **Orders:** Orders are subject to acceptance at home office of the Seller

3. **Payments:** With Approved Credit, payment is due in full on the date stated on Invoice. Seller may require full or partial payment in advance. If the Buyer fails to pay any invoice when due, Seller may defer delivery. A service charge, the lesser of the highest allowed by law or 1.5% per month, or fraction thereof, for a maximum of 18% per annum will be charged on all past-due invoices.

4. **Prices:** Prices are subject to change without notice. Prices will be the prices in effect at the time of shipment by Seller.

5. **Taxes:** Prices do not include any taxes. In the event Seller is required to pay any taxes, the Buyer shall reimburse Seller therefore, unless Buyer provides Seller at the time an order is submitted with exemption certificates or other documents acceptable to taxing authorities.

6. **Shipments and Delivery:** Shipments are made F.O.B. Seller’s shipping point. All material is carefully packed for shipment. Risk of loss or damage and responsibility shall pass from Seller to Buyer upon shipment. While Seller will use reasonable efforts to maintain delivery dates acknowledged or quoted by Seller, all shipping dates are approximate and not guaranteed.

7. **Returns for Credit:** NO returns for credit shall be accepted unless Seller’s written permission has been obtained in each case in advance, and within the warranty period. Only standard products from Seller’s regular line which are in active demand may be accepted for credit. Credits shall not be issued for custom-built or modified products. Credit amount will be based on invoiced price, subject to reasonable deduction for handling and for restoration of goods to salable condition.

8. **Limitation of Liability:** Buyer agrees that in no event shall Seller’s liability to buyer and/or its customers tend to include incidental, consequential, or punitive damages. The term “consequential damages” shall include, but not limited to, loss of anticipated profits, loss of use, loss of revenue, cost of capital, and damage or loss of other property or equipment.

9. **Errors:** All clerical errors are subject to corrections

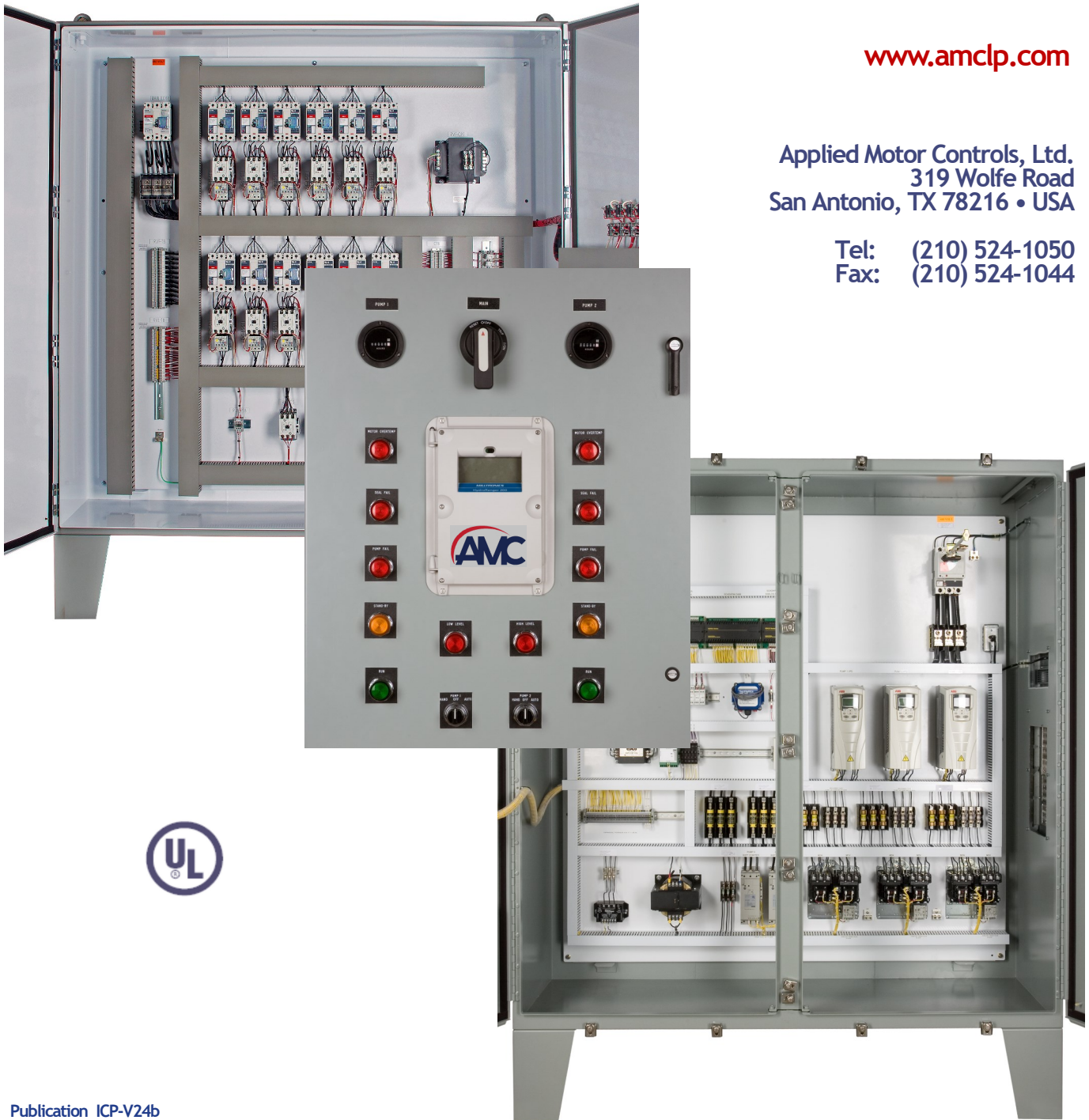
10. **Effective Date:** February 1, 2024

# Custom-Built, UL Listed Pump Controls Panels

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*Quality Water Pumping Solutions Since 2003*

*20+ Years of Experience and Reliability*