

# MODEL 324 Control Panel

## Three phase, duplex alternating pump control with intrinsically safe circuits.

The Model 324 control panel is designed for applications requiring intrinsically safe float circuits or other circuit extensions. This panel will alternately control two 208/240/480 VAC three phase pumps. The alternating action equalizes pump wear. In addition to the alternating pump control, this system provides override control should either pump fail. If an alarm condition occurs, an additional alarm switch activates the audio/visual alarm system. Common applications include pump chambers, lift stations, or other installations classified as hazardous locations requiring intrinsically safe circuits.

## PANEL COMPONENTS

1. **Enclosure** measures 16 x 14 x 6 inches (40.64 x 35.56 x 15.24 cm) NEMA 4X (ultraviolet stabilized thermoplastic with removable mounting feet for outdoor or indoor use).
2. **Intrinsically Safe Module** limits the amount of energy to switches preventing ignition of flammable gases.
3. **Intrinsically Safe Partition** isolates intrinsically safe wiring.
4. **Motor Protective Switches** provide adjustable overload, branch circuit protection and pump disconnect.
5. **IEC Motor Contactors** control pumps by switching electrical lines.
6. **HOA Switches** for manual pump control (mounted on circuit board).
7. **Multi-Tap Transformer** (208/240/480 VAC primary) provides 120V control/alarm voltage or 600VAC primary transformer.
8. **Alternating Circuit Board** provides pump control and alternation of pumps (U.S. Patent # 5,909,352).
9. **Green Pump Run Indicator Lights** (mounted on circuit board).
10. **Control/Alarm Fuse** (mounted on circuit board).
11. **Float Status Indicator Lights** (mounted on circuit board).
12. **Input Power Terminal Block**
13. **Ground Lugs**
14. **Control/Alarm Power Indicator Light** (mounted on circuit board).
15. **Control ON/OFF Switch** (mounted on circuit board).

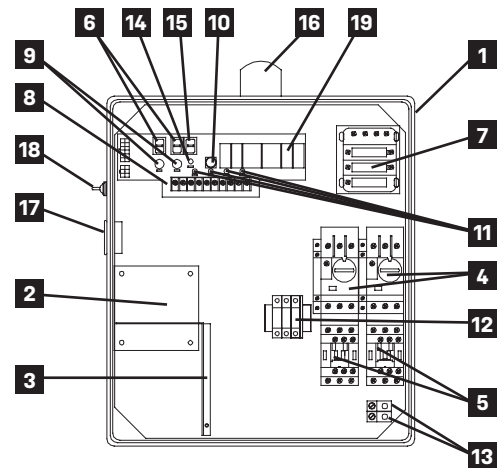
**NOTE:** Schematic/Wiring Diagram is located inside the panel on enclosure cover.

## STANDARD ALARM PACKAGE

16. **Red Alarm Beacon** provides 360° visual check of alarm condition.
17. **Alarm Horn** provides audio warning of alarm condition (83 to 85 decibel rating).
18. **Exterior Alarm Test/Normal/Silence Switch** allows horn and light to be tested and horn to be silenced in an alarm condition. Alarm automatically resets once alarm condition is cleared.
19. **Horn Silence Relay** (mounted circuit board).

**NOTE:** other options available.

**Model 324 control panels cannot be returned. Please refer to the Product Return section.**



**Model Shown 3241W511X**

## FEATURES

- Industrial control panel is UL Listed relating to hazardous locations with intrinsically safe circuit extensions
- Dual safety certification for the United States and Canada
- Standard package includes three 20' control switches or EZconnex® float system
- Complete with step-by-step installation instructions
- Five-year limited warranty



**SJE RHOMBUS**

PO Box 1708, Detroit Lakes, MN 56502

1-888-DIAL-SJE • 1-218-847-1317

1-218-847-4617 Fax

email: [customer.service@sjeinc.com](mailto:customer.service@sjeinc.com)

[www.sjerrhombus.com](http://www.sjerrhombus.com) **B.59**

**SEE REVERSE SIDE FOR ORDERING INFORMATION.  
SEE PRICE BOOK FOR LIST PRICE.**

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# MODEL 324

## ALARM PACKAGE

- 0 = select options or no alarm package
- 1 = alarm package (includes test/normal/silence switch, fuse, red light, & horn)

## ENCLOSURE RATING

- W = Weatherproof, NEMA 4X (engineered thermoplastic)

## PUMP FULL LOAD AMPS

### 208/240/480V

- 001 = 1.0-1.6 FLA
- 101 = 1.6-2.5 FLA
- 201 = 2.5-4.0 FLA
- 301 = 4.0-6.3 FLA
- 401 = 6.0-10.0 FLA
- 511 = 9.0-14.0 FLA
- 611 = 13.0-18.0 FLA
- 621 = 17.0-23.0 FLA
- 701 = 20.0-25.0 FLA

### 600V

- 005 = 1.0-1.6 FLA
- 105 = 1.6-2.5 FLA
- 205 = 2.5-4.0 FLA
- 305 = 4.0-6.3 FLA
- 405 = 6.0-10.0 FLA
- 515 = 9.0-14.0 FLA
- 615 = 13.0-18.0 FLA
- 625 = 17.0-23.0 FLA
- 705 = 20.0-25.0 FLA

## FLOAT SWITCH APPLICATION

- H or L = pump down or pump up (select 17 option)
- E = EZconnex® float switch system (select 34 or 35 option)
- X = no floats

## OPTIONS *Listed below*



ENCLOSURE UPSIZE - If you selected one or more of the ★ options

- | CODE                     | DESCRIPTION   |
|--------------------------|---|
| <input type="checkbox"/> | 1A Red beacon only / no audio   |
| <input type="checkbox"/> | 1C Horn only / no visual  |
| <input type="checkbox"/> | 3A Alarm flasher  |
| <input type="checkbox"/> | 3B Manual alarm reset   |
| <input type="checkbox"/> | ★ 3C Red high/low indicator light and alarm activation (4A not needed)                  |
| <input type="checkbox"/> | 3D Float for low indicator (must select option 3C)                                      |
| <input type="checkbox"/> | ★ 4A Redundant off (select option 4D if floats included, 3C not needed)                 |
| <input type="checkbox"/> | 4B Red redundant off indicator & alarm (must select 4A also)                            |
| <input type="checkbox"/> | 4D Redundant off float (must select 4A option) (must select 17 option)                  |
| <input type="checkbox"/> | 5A Thermal cutout/heat sensor auto reset (for pumps w/thermal switch leads)             |
| <input type="checkbox"/> | 5 E Seal failure circuit & red indicator (2 wire)                                       |
| <input type="checkbox"/> | ★ 5M Seal failure alarm activation (must select option 5E)                              |
| <input type="checkbox"/> | 6A Auxiliary alarm contact, form C  |
| <input type="checkbox"/> | ★ 6G Auxiliary contact, seal fail, normally open (must select option 5E)                |
| <input type="checkbox"/> | ★ 8A Elapsed time meter   |
| <input type="checkbox"/> | ★ 8C Event (cycle) counter  |
| <input type="checkbox"/> | 10A Clear inner swing-out door w/dead front (lights and switches mounted on inner door) |
| <input type="checkbox"/> | 10E Lockable latch  |
| <input type="checkbox"/> | 10G Lightning arrestor  |
| <input type="checkbox"/> | ★ 10K Anti-condensation heater  |
| <input type="checkbox"/> | 11C NEMA 1 alarm panel (must select option 6A)  |
| <input type="checkbox"/> | 11D NEMA 4X alarm panel (must select option 6A)   |

- | CODE                     | DESCRIPTION   |
|--------------------------|---|
| <input type="checkbox"/> | ★ 14B Main disconnect (rotary style, mounted through door, non-fused, padlockable in the OFF-position, door interlock in the ON-position) |
| <input type="checkbox"/> | ★ 0-20 FLA (total of both pumps)  |
| <input type="checkbox"/> | ★ 20-50 FLA (total of both pumps)   |
| <input type="checkbox"/> | 16A 10' cord in lieu of 20' (per float)   |
| <input type="checkbox"/> | 16B 15' cord in lieu of 20' (per float)   |
| <input type="checkbox"/> | 16C 30' cord in lieu of 20' (per float)   |
| <input type="checkbox"/> | 16D 40' cord in lieu of 20' (per float)   |
| <input type="checkbox"/> | 17C Sensor Float® / internally weighted ▲ (per float)   |
| <input type="checkbox"/> | 17D Sensor Float® / externally weighted ▲ (per float)   |
| <input type="checkbox"/> | 17G MilliAmpMaster™/ pipe clamp ● (per float)   |
| <input type="checkbox"/> | 17H MilliAmpMaster™/ externally weighted ● (per float)  |
| <input type="checkbox"/> | 17J Sensor Float® / pipe clamp ▲ (per float)  |
| <input type="checkbox"/> | 19B Lead lag selector switch  |
| <input type="checkbox"/> | 19F Fourth float to separate alarm function from lag  |
| <input type="checkbox"/> | 19G Panel wired to accept fourth control switch   |
| <input type="checkbox"/> | 19T TOA (Test/Off/Automatic) switches and pump run light through door mounted   |
| <input type="checkbox"/> | 19U HOA (Hand/Off/Automatic) switches and pump run light through door mounted   |
| <input type="checkbox"/> | 19X Door mounted pump run indicator   |
| <input type="checkbox"/> | 34D EZconnex® 4-Port, 25', w/10' floats (3) /pipe clamp, sealing plug *   |
| <input type="checkbox"/> | 34E EZconnex® 4-Port, 50', w/10' floats (3) /pipe clamp, sealing plug *   |
| <input type="checkbox"/> | 34G EZconnex® 4-Port, 25', w/20' floats (3) /pipe clamp, sealing plug *   |
| <input type="checkbox"/> | 34H EZconnex® 4-Port, 50', w/20' floats (3) /pipe clamp, sealing plug *   |
| <input type="checkbox"/> | 35D EZconnex® 4-Port, 25', w/10' floats (4) /pipe clamp *   |
| <input type="checkbox"/> | 35E EZconnex® 4-Port, 50', w/10' floats (4) /pipe clamp *   |
| <input type="checkbox"/> | 35G EZconnex® 4-Port, 25', w/20' floats (4) /pipe clamp *   |
| <input type="checkbox"/> | 35H EZconnex® 4-Port, 50', w/20' floats (4) /pipe clamp *   |

● Mechanically-activated ▲ Mercury-activated  
 \* EZconnex® mechanically-activated, narrow angle float switches with quick release connections.