

# MODEL 124 Control Panel

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

The Model 124 control panel is designed for applications requiring intrinsically safe float circuits or other circuit extensions. This panel will alternately control two 120/208/240 VAC single 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 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). **Note:** Options selected may increase enclosure size and change component layout.
- 2. Intrinsically Safe Module** limits the amount of energy to switches preventing ignition of flammable gasses.
- 3. Intrinsically Safe Partition** isolates intrinsically safe wiring.
- 4. IEC Motor Contactors** control pumps by switching electrical lines.
- 5. HOA Switches** for manual pump control (mounted on circuit board).
- 6. Alternating Control Circuit Board** provides pump control and alternation. (U.S. patent 5,909,352).
- 7. Green Pump Run Indicator Lights** (mounted on circuit board).
- 8. Float Status Indicator Lights** (mounted on circuit board).
- 9. Input Power Terminal Block**
- 10. Ground Lugs**
- 11. Control ON/OFF Switch** (mounted on circuit board).
- 12. Control/Alarm Power Indicator Light** (mounted on circuit board).
- 13. Circuit Breakers** (optional) provide pump disconnect and branch circuit protection.
- 14. Adjustable Overloads** (optional) provide thermal overload protection for pump.

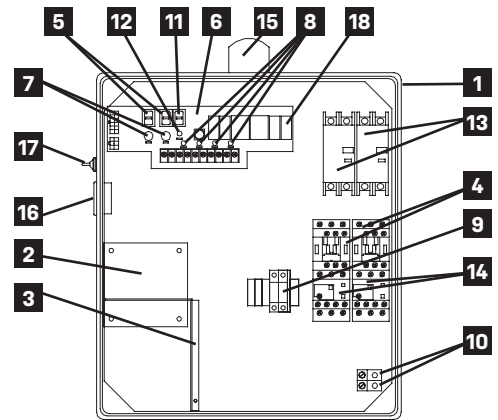
**NOTE:** Schematic/Wiring diagram is located inside the panel on enclosure cover.

## STANDARD ALARM PACKAGE

- 15. Red Alarm Beacon** provides 360° visual check of alarm condition.
- 16. Alarm Horn** provides audio warning of alarm condition (83 to 85 decibel rating).
- 17. 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.
- 18. Horn Silence Relay** (mounted on circuit board).

**NOTE:** other options available.

**Model 124 control panels cannot be returned. Please refer to the Product Return section.**



Model Shown 1241W114X

## 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. This express warranty does not apply to the motor start kit components. SJE Rhombus will warranty motor start kit components supplied by SJE Rhombus for one year. SJE Rhombus makes no warranties of any type with respect to motor start kits supplied by a customer.



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

**124****W****MODEL 124****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)

**STARTING DEVICE**

- 1 = magnetic motor contactor 120/208/240V  
 9 = magnetic motor contactor 120V only

**PUMP FULL LOAD AMPS**

- 0 = 0-7 FLA  
 1 = 7-15 FLA  
 2 = 15-20 FLA  
 3 = 20-30 FLA  
 4 = 30-40 FLA

**PUMP DISCONNECTS**

- 0 = no pump disconnect  
 4 = circuit breaker 120V (select STARTING DEVICE option 9 above)  
 120/208/240V (select STARTING DEVICE option 1 above)

**FLOAT SWITCH APPLICATION**

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

**OPTIONS** *Listed below*

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

- | CODE                                     | DESCRIPTION  |
|--|--|
| <input type="checkbox"/> 1A              | Red beacon only / no audio<br><i>(must select "0" for alarm package)</i>   |
| <input type="checkbox"/> 1C              | Horn only / no visual<br><i>(must select "0" for alarm package)</i>  |
| <input type="checkbox"/> 3A              | Alarm flasher  |
| <input type="checkbox"/> 3B              | Manual alarm reset   |
| <input checked="" type="checkbox"/> ★ 3C | Red high / low indicator lights<br>& alarm activation <i>(4A not needed)</i>   |
| <input type="checkbox"/> 3D              | Float for low indicator <i>(must select option 3C)</i>   |
| <input checked="" type="checkbox"/> ★ 4A | Redundant off<br><i>(select Option 4D if floats included, 3C not needed)</i>   |
| <input type="checkbox"/> 4B              | Red redundant off indicator & alarm<br><i>(must select Option 4A also)</i>   |
| <input type="checkbox"/> 4D              | Redundant off float <i>(must select 4A &amp; 17 option)</i>  |
| <input type="checkbox"/> 5A              | Thermal cutout/heat sensor auto reset<br>(for pumps with thermal switch leads)                                       |
| <input type="checkbox"/> 5 E             | Seal fail circuit and indicator (2 wire)   |
| <input checked="" type="checkbox"/> ★ 5M | Seal fail alarm activation<br><i>(must select option 5E)</i>   |
| <input type="checkbox"/> 6A              | Auxiliary alarm contact, form C  |
| <input checked="" type="checkbox"/> ★ 6G | Auxiliary contact, seal fail, normally open<br><i>(must select option 5E)</i>  |
| <input checked="" type="checkbox"/> ★ 8A | Elapsed time meter   |
| <input checked="" type="checkbox"/> ★ 8C | Event (cycle) counter  |
| <input type="checkbox"/> 9__A            | Overload protection <i>specify amperage after number</i><br><i>9 followed by letter "A" (ex. 912A = 12 amp pump)</i> |
| <input type="checkbox"/>                 | <input type="checkbox"/> 0-25 FLA  |
| <input type="checkbox"/>                 | <input type="checkbox"/> 25-40 FLA   |
| <input type="checkbox"/> 10A             | Clear inner swing-out door w/dead front<br><i>(lights and switches mounted on inner door)</i>                        |
| <input type="checkbox"/> 10E             | Lockable latch   |
| <input type="checkbox"/> 10F             | Lightning arrester<br><i>(must select pump circuit breaker)</i>  |
| <input type="checkbox"/> 10K             | Anti-condensation heater   |
| <input type="checkbox"/> 11C             | NEMA 1 alarm panel <i>(must select option 6A)</i>  |
| <input type="checkbox"/> 11D             | NEMA 4X alarm panel <i>(must select option 6A)</i>   |

- | CODE                                      | DESCRIPTION  |
|---|--|
| <input checked="" type="checkbox"/> ★ 12B | Motor start components<br><i>(supplied by customer, mounted by SJE Rhombus)</i>  |
| <input checked="" type="checkbox"/> ★ 12C | Motor start components<br><i>(supplied and mounted by SJE Rhombus)</i>   |
| <input checked="" type="checkbox"/> ★ 14B | Main disconnect <i>(rotary style, mounted through door, non-fused, padlockable in the OFF-position, door interlock in the ON-position)</i><br><i>(must select circuit breaker)</i> |
| <input type="checkbox"/>                  | <input checked="" type="checkbox"/> ★ 0-20 FLA (total of both pumps)   |
| <input type="checkbox"/>                  | <input checked="" type="checkbox"/> ★ 20-80 FLA (total of both pumps)  |
| <input type="checkbox"/>                  | 16A 10' cord in lieu of 20' <i>(per float)</i>   |
| <input type="checkbox"/>                  | 16B 15' cord in lieu of 20' <i>(per float)</i>   |
| <input type="checkbox"/>                  | 16C 30' cord in lieu of 20' <i>(per float)</i>   |
| <input type="checkbox"/>                  | 16D 40' cord in lieu of 20' <i>(per float)</i>   |
| <input type="checkbox"/>                  | 17C Sensor Float® / internally weighted ▲ <i>(per float)</i>   |
| <input type="checkbox"/>                  | 17D Sensor Float® / externally weighted ▲ <i>(per float)</i>   |
| <input type="checkbox"/>                  | 17G MilliAmpMaster™/ pipe clamp ● <i>(per float)</i>   |
| <input type="checkbox"/>                  | 17H MilliAmpMaster™/ externally weighted ● <i>(per float)</i>  |
| <input type="checkbox"/>                  | 17J Sensor Float® / pipe clamp ▲ <i>(per float)</i>  |
| <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 lights through door mounted   |
| <input type="checkbox"/>                  | 19U HOA (Hand/Off/Automatic) switches and pump run lights 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.