

### 3. Location

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Selection of proper operating environment will maintain the power supply in top operating condition. Location of your power supply is determined by:

- 1 > How the unit is cooled: air or water.
- 2 > Direct or Remote Control.
- 3 > AC power source and DC bus to the tank.
- 4 > Space available on the production line.

The power supply should be located in a clean, dry, ventilated location with enough clearance from the walls for removal of all panels. Minimum of 3' clearance is recommended.

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#### Location suggestions for air-cooled power supplies.

- Do not** locate power supply close to heat generating equipment such as boilers, furnaces, etc.
- Do not** locate where subject to dripping or splashing
- Do not** locate next to wall or areas preventing full freedom of air movement or where air exhaust may be restricted.
- Do not** locate in areas where intake suction may pull in excessive dust, moisture or corrosive fumes.
- Do not** locate where atmosphere may be subject to combustible fumes.
- Do not** install power supply units in a location where they are subject to moving lint. Lint may clog filters and cooling fins causing a reduction in airflow and subsequent overheating.

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- **Note:**  
**Corrosive fumes and high ambient temperature reduces the life of the power supply.**

***ALDONEX recommends installation site AWAY from the direct processing area.***

In many cases the power supply can be located in an adjacent room, thus isolating the unit from the poor environmental conditions. When installing in a separate room, particularly if the room is small, ample ventilation should be provided to keep the room temperature from rising excessively.

## **4. Installation**

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After placing the power supply and remote control panel in their final location, following connections will need to be established.

**1>** AC Power

**2>** DC Bus

**3>** Remote Control Interconnection.

### **AC Connection**

Connect the AC input line to your power supply in accordance with the recommendations of the National Electrical Code (NEC), and the requirements of applicable local codes. Aldonex recommends that the AC line be sized and fused about 25% higher than the full-rated line current.

Make sure your building ground is connected and tight.

When all connections are complete, the wires and connections should be thoroughly checked before applying power. The internal connections of your power supply should be inspected for any wiring that may have come loose or been damaged during transit and installation.

### **DC Connection**

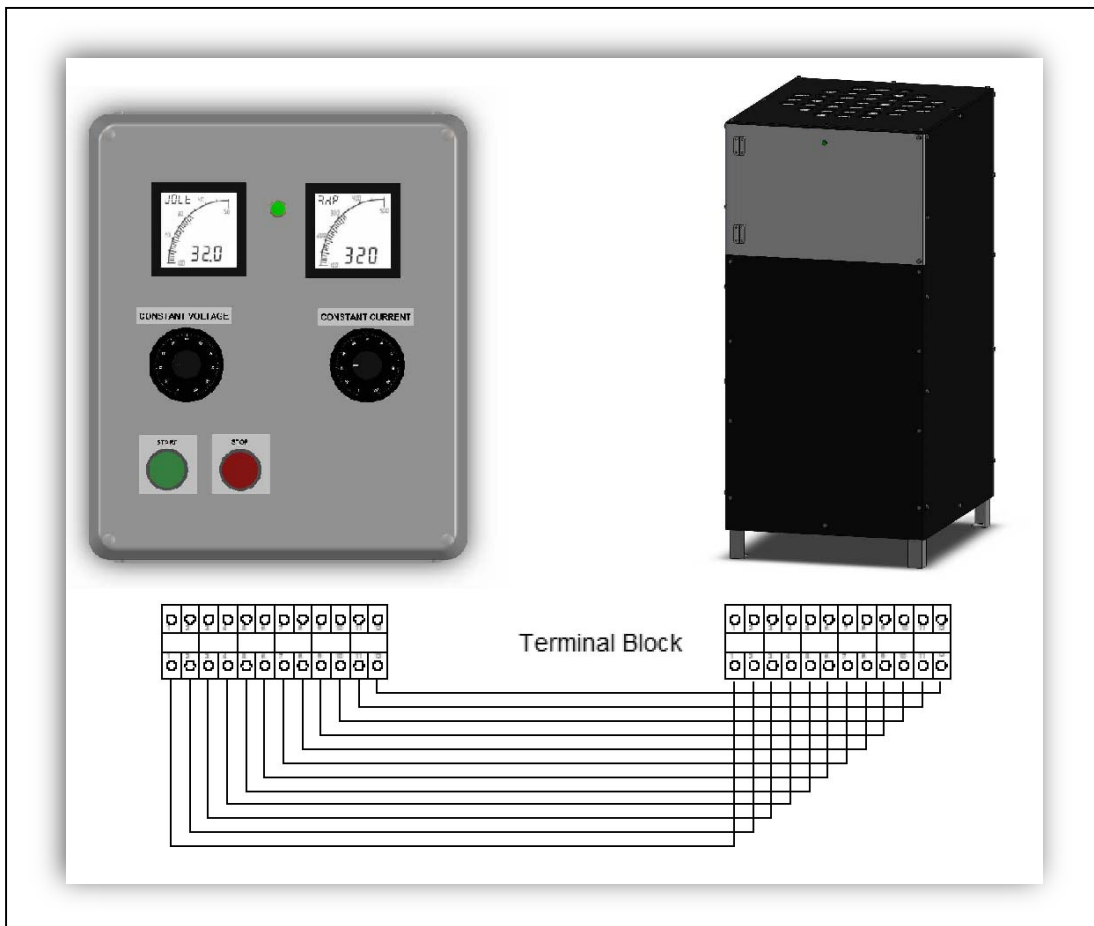
Connect your power supply to the tank by installing copper bussing between the DC output stubs on the power supply and the tank. Aldonex recommends that the bussing size be one square inch for every 1000 amps of the power supplies rated output current. Whatever size bussing is used, be sure that the same size is used for both ***Positive*** and ***Negative*** bus.

## 5. Remote Control

Locate the remote control operator panel close to the operator's normal duties. When the distance between the remote control panel and the power supply is  $<$  than 500 feet, #14AWG wire may be used between the equipment. When the distance is  $<$ 100 feet, #16AWG may be used between the equipment. When the distance is  $<$ 50 feet #20AWG may be used between the equipment. Your wiring print will show the number of wires required for the remote control panel. Wire connections will be similar to those in Figure 1. If you have an "EZ" Controller Remote shielded #18-20 AWG can be used. We recommend a No-Conduit Required Double Shielded Control Cable.

It is a good idea to include a spare wire or two for future requirements. Control wires should be free from unnecessary electrical noise as much as possible, since these wires usually employ electronic signals to operate the automatic controls. It is recommended that control circuit wires be placed in a separate metal conduit, away from any high current AC or DC lines, to minimize induced electrical noise. See **Figure 2** for terminal block wiring

Figure 1



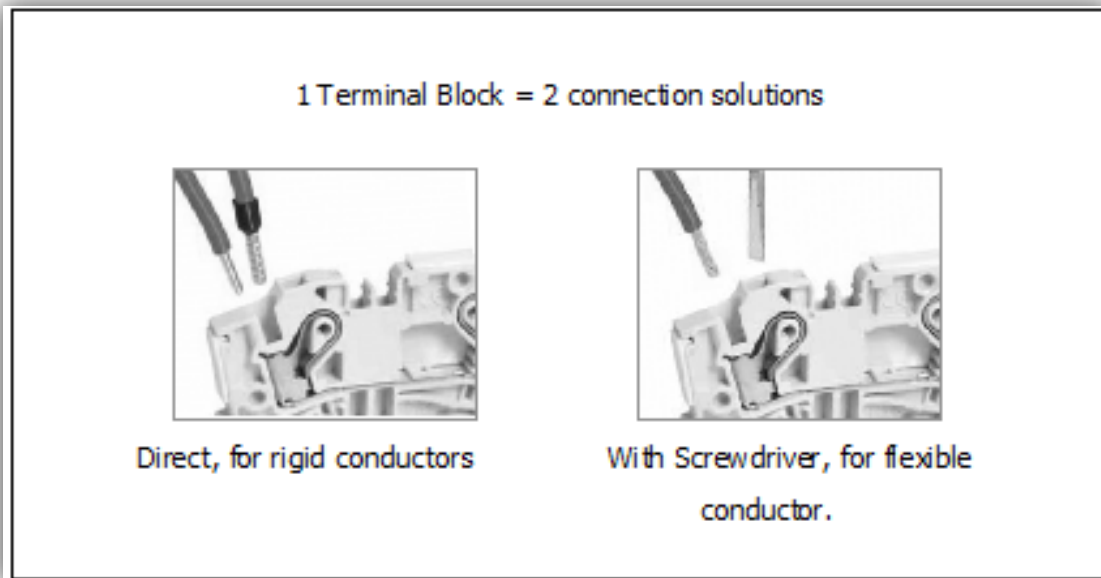


Figure 2

On some Aldonex rectifiers you will find screwless terminal blocks. You simply insert a bare solid wire as shown. If using flexible wire insert 3.5mm flat screwdriver to hold the retaining spring back and then insert your wire.

## 6. Proper Phasing.

Tap Switch, Manual and Motorized Variable Transformer (VT), power supplies **do not** require any special incoming phase sequence.

*In the case of three phase motors, be sure to check fan rotation. **Unless otherwise noted all fans are UP draft.** All single-phase fan motors are set at the factory for their proper rotation.*

**Thyristor (SCR)** power supplies **must have** a certain incoming phasing. To assure proper phasing there is a phase indicator relay with one or two pilot lights on it,

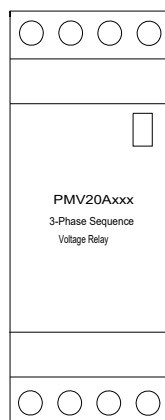
**The machine will not turn on unless lights are on Steady.**

If only the one light is on or is flashing, this indicates correct AC voltage input, but wrong phasing. To correct the phasing, change any two AC input line leads until both lights are on. If the light doesn't light, this means one or more AC lines are dead. If at any time machine shuts off for no reason, (such as a cut-off timer, etc.) check first to see if lights on indicator are on. If not, a main fuse is probably the Problem.

**Never reverse wires pre-connected in the machine**

Only proper phase sequence will light the lights on the phase indicator and allow machine to start.

3-Phase Voltage Sequence Control.  
Standard with all 3-phase SCR  
power supplies. Styles vary.



Power ON,  
Sequence OK:  
Solid GREEN  
Fault:  
Flashing GREEN

