



# SubDrive Solar

## Array Wiring Diagrams



**Franklin Electric**

## **ATTENTION**

### **IMPORTANT INFORMATION FOR INSTALLERS OF THIS EQUIPMENT!**

THIS EQUIPMENT IS INTENDED FOR INSTALLATION BY TECHNICALLY QUALIFIED PERSONNEL. FAILURE TO INSTALL IT IN COMPLIANCE WITH NATIONAL AND LOCAL ELECTRICAL CODES, AND WITHIN FRANKLIN ELECTRIC RECOMMENDATIONS, MAY RESULT IN ELECTRICAL SHOCK OR FIRE HAZARD, UNSATISFACTORY PERFORMANCE, AND EQUIPMENT FAILURE. FRANKLIN INSTALLATION INFORMATION IS AVAILABLE FROM PUMP MANUFACTURERS AND DISTRIBUTORS, AND DIRECTLY FROM FRANKLIN ELECTRIC.

## **⚠ WARNING**

SERIOUS OR FATAL ELECTRICAL SHOCK MAY RESULT FROM FAILURE TO CONNECT THE MOTOR, CONTROL ENCLOSURES, METAL PLUMBING, AND ALL OTHER METAL NEAR THE MOTOR OR CABLE TO A PROPER EARTH GROUND IN ACCORDANCE WITH LOCAL CODES, USING WIRE NO SMALLER THAN MOTOR CABLE WIRES. TO REDUCE RISK OF ELECTRICAL SHOCK, DISCONNECT POWER BEFORE WORKING ON OR AROUND THE WATER SYSTEM. DO NOT USE MOTOR IN SWIMMING AREAS.

## **⚠ CAUTION**

Use the SubDrive Solar controller only with Franklin Electric 4-inch submersible motors as specified in SubDrive Solar manual (see Table 6, pg. 26). Use of this unit with any other Franklin Electric motor or with motors from other manufacturers may result in damage to both motor and electronics.

## **⚠ WARNING**

High voltages (both AC and DC) capable of causing severe injury or death by electrical shock are present in this unit. More than one disconnect switch may be required to de-energize the equipment before servicing. This unit should only be installed or serviced by technically qualified professionals.

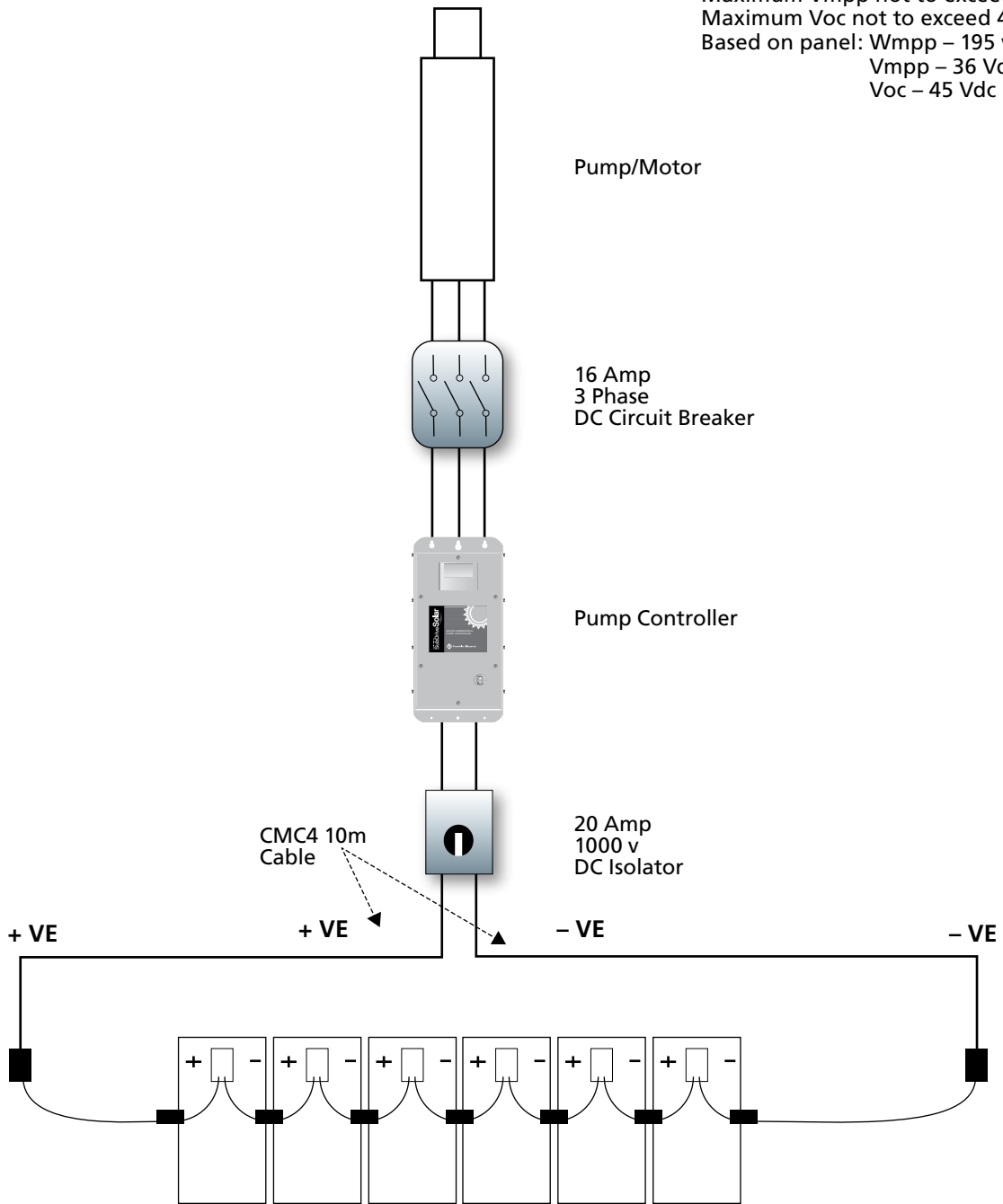
Anytime working on or near the SubDrive Solar controller, or system:

- Securely cover the solar array with an opaque tarp.
- Turn OFF the external DC rated disconnect from the solar array to the SubDrive Solar controller.
- Ensure AC power has been disconnected from the SubDrive Solar controller (if used).
- Wait a minimum of 5 minutes after removing power from the SubDrive Solar controller before servicing.
- Incorrect wiring of panels causing the Controller to be fused, blown/overloaded will void warranty.

**Wiring Diagram – 6 Panel**

**Notes:**

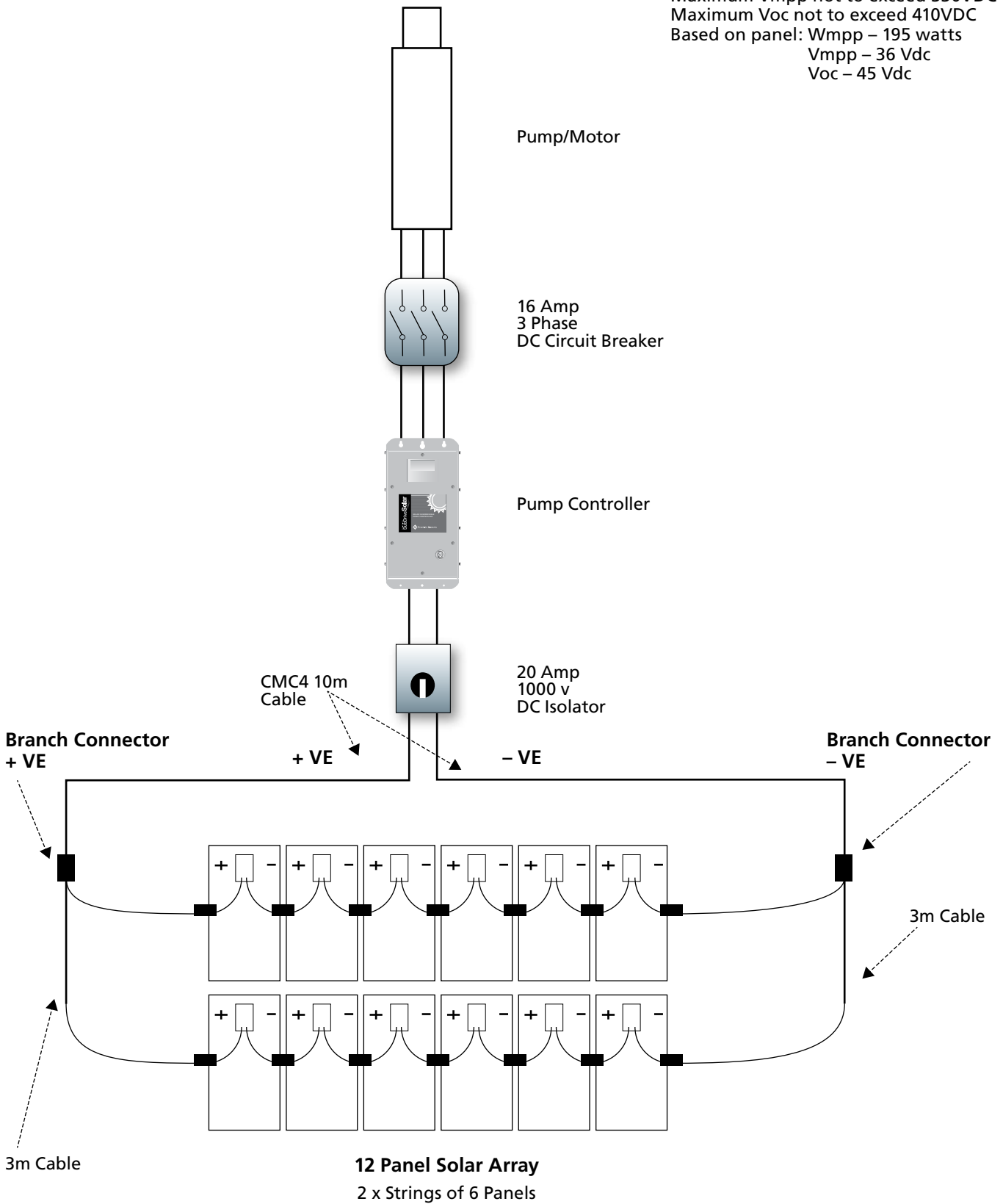
Maximum Vmpp not to exceed 330VDC  
 Maximum Voc not to exceed 410VDC  
 Based on panel: Wmpp – 195 watts  
 Vmpp – 36 Vdc  
 Voc – 45 Vdc



**6 Panel Solar Array**

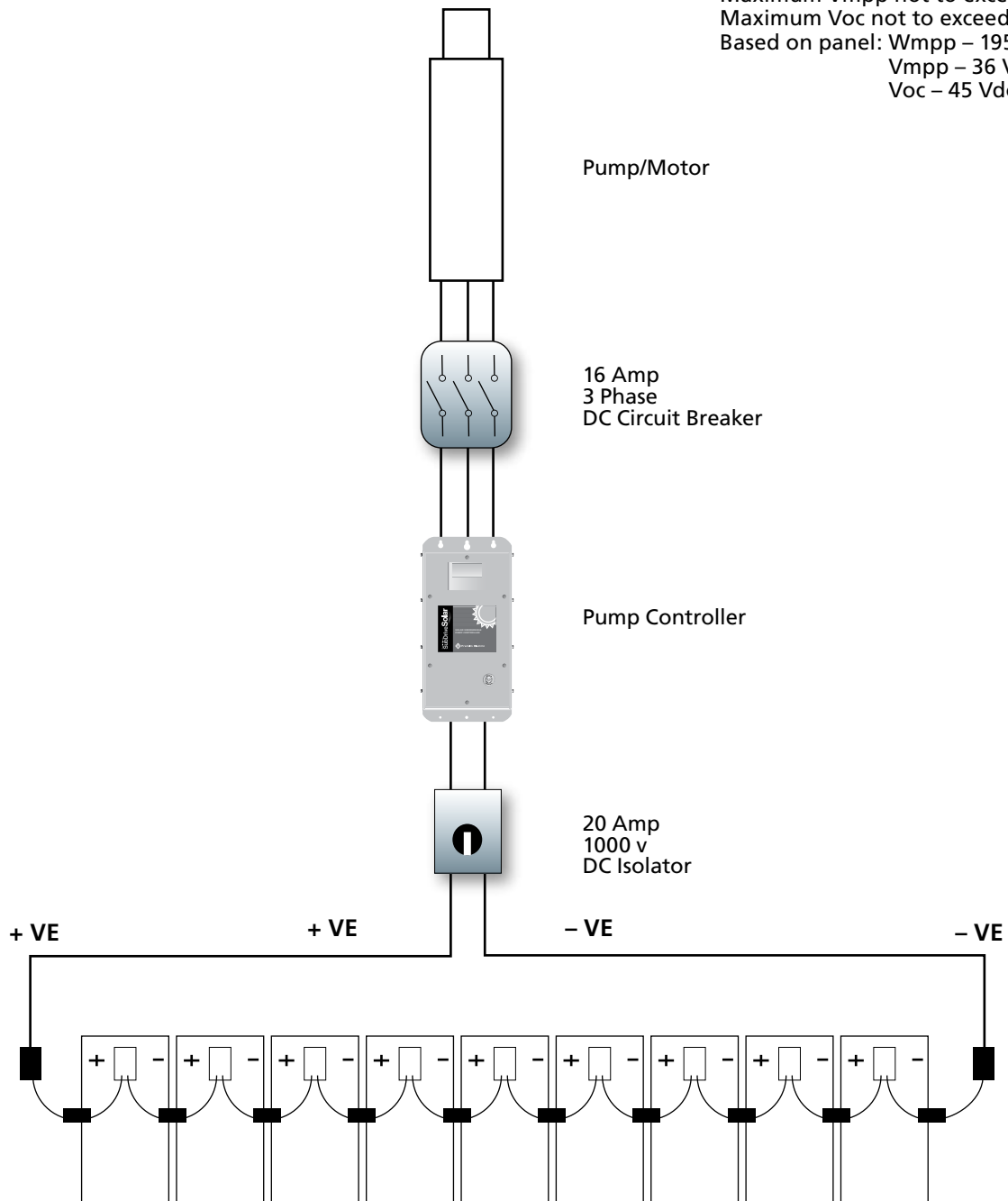
**Wiring Diagram – 12 Panel**

**Notes:**  
 Maximum Vmpp not to exceed 330VDC  
 Maximum Voc not to exceed 410VDC  
 Based on panel: Wmpp – 195 watts  
 Vmpp – 36 Vdc  
 Voc – 45 Vdc



**Wiring Diagram – 6, 7, 8 & 9 Panels**

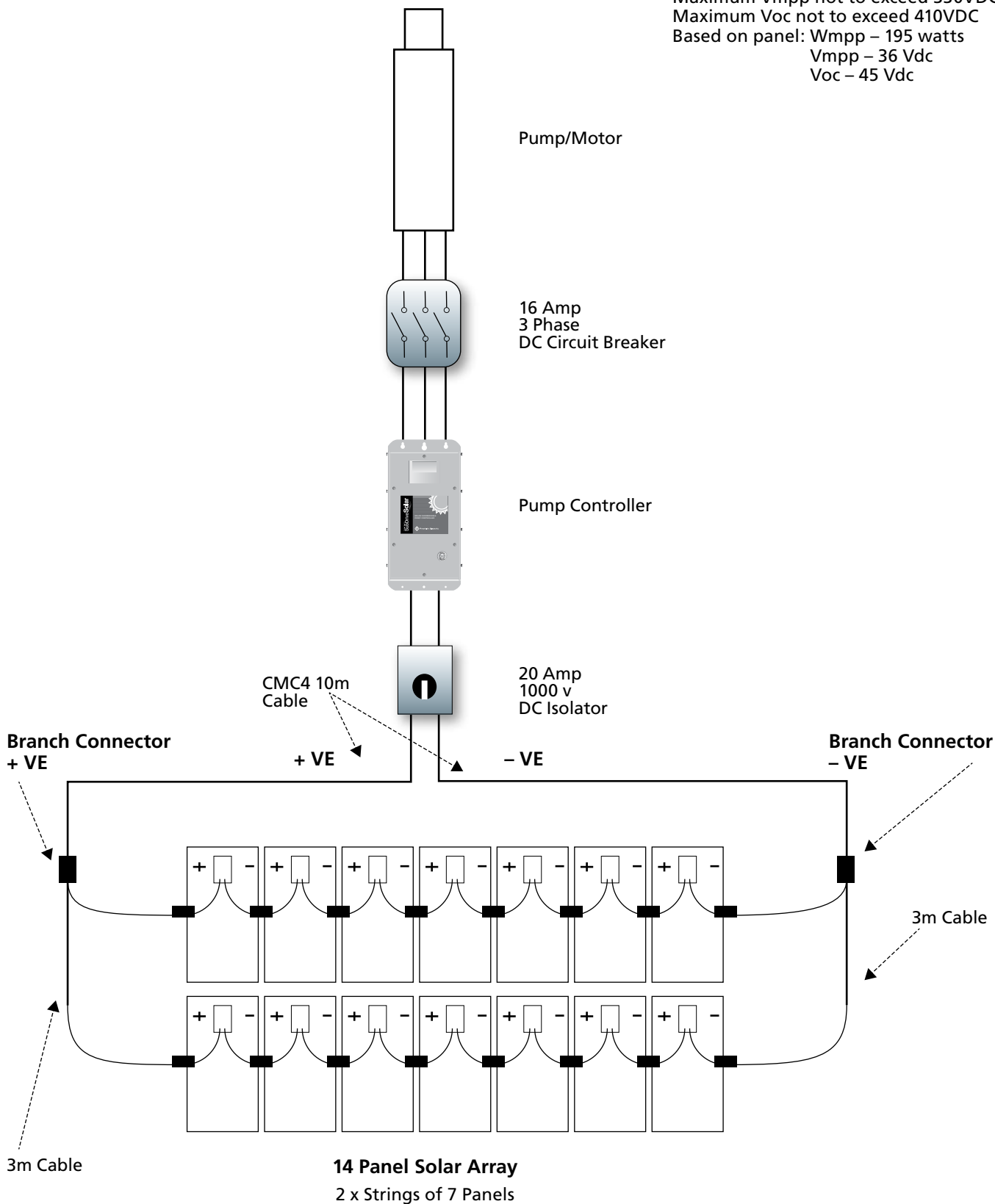
**Notes:**  
 Maximum Vmpp not to exceed 330VDC  
 Maximum Voc not to exceed 410VDC  
 Based on panel: Wmpp – 195 watts  
 Vmpp – 36 Vdc  
 Voc – 45 Vdc



**6, 7, 8 & 9 Panels in Series**

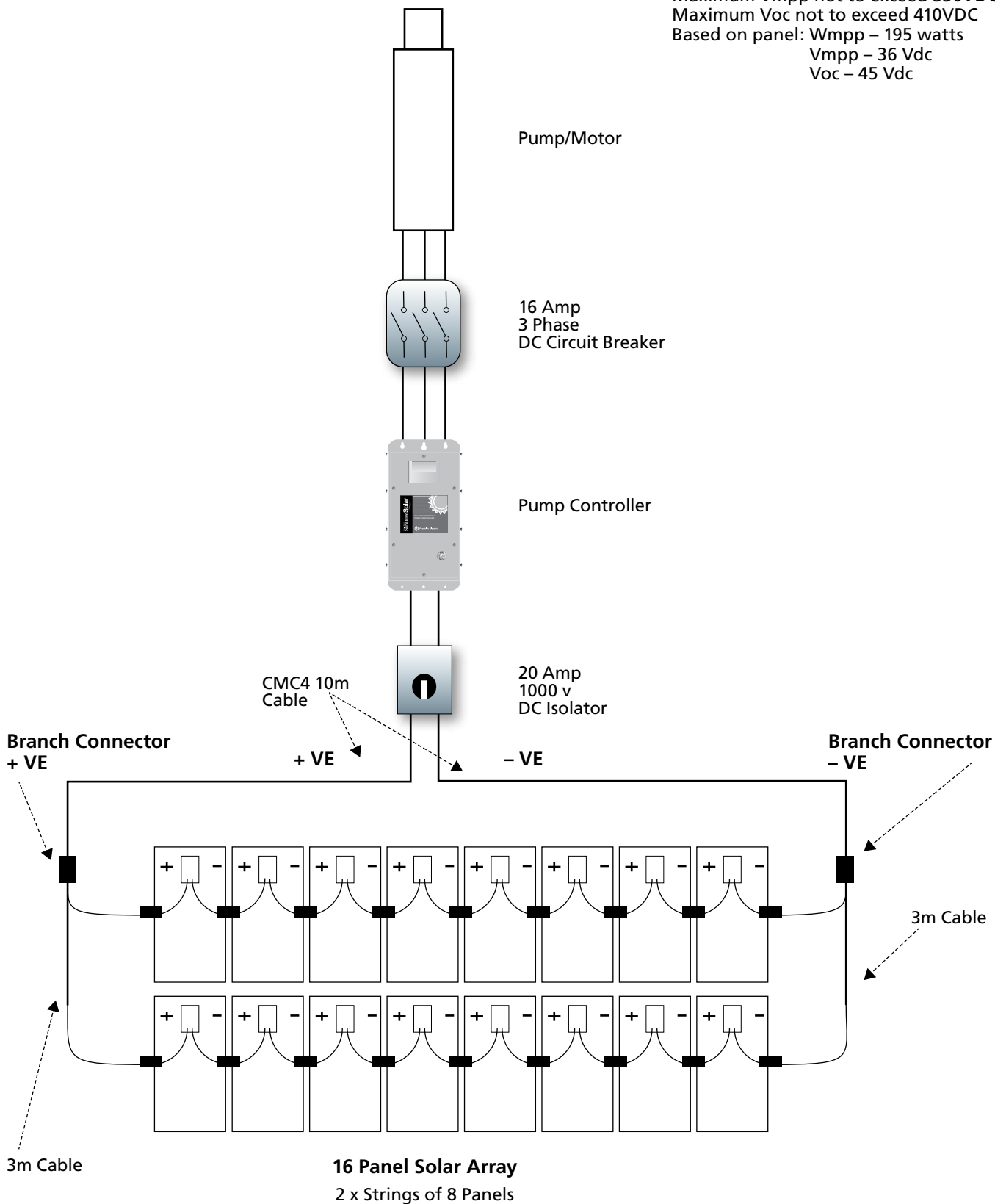
**Wiring Diagram – 14 Panel**

**Notes:**  
 Maximum Vmpp not to exceed 330VDC  
 Maximum Voc not to exceed 410VDC  
 Based on panel: Wmpp – 195 watts  
 Vmpp – 36 Vdc  
 Voc – 45 Vdc



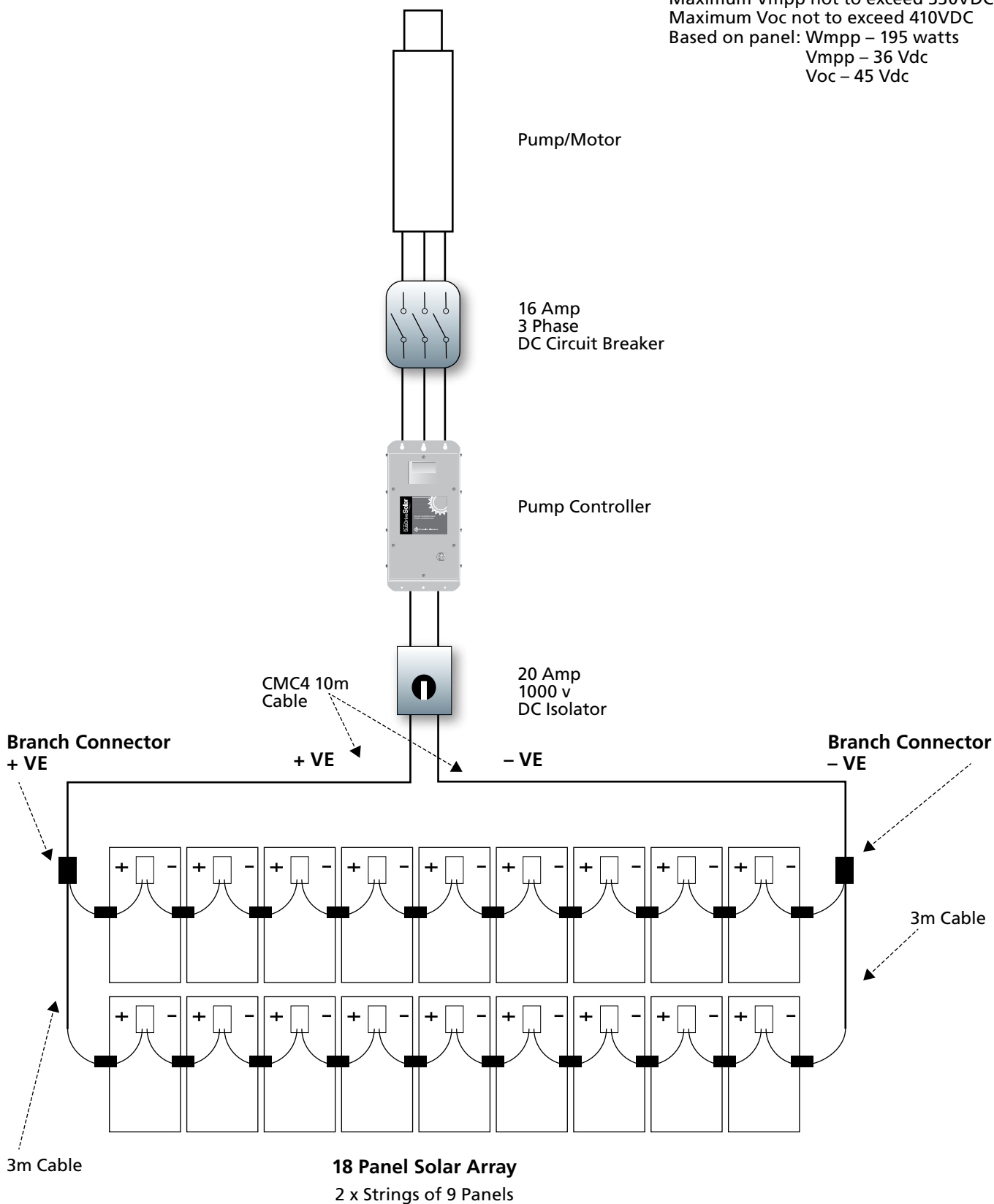
**Wiring Diagram – 16 Panel**

**Notes:**  
 Maximum Vmpp not to exceed 330VDC  
 Maximum Voc not to exceed 410VDC  
 Based on panel: Wmpp – 195 watts  
 Vmpp – 36 Vdc  
 Voc – 45 Vdc



### Wiring Diagram – 18 Panel

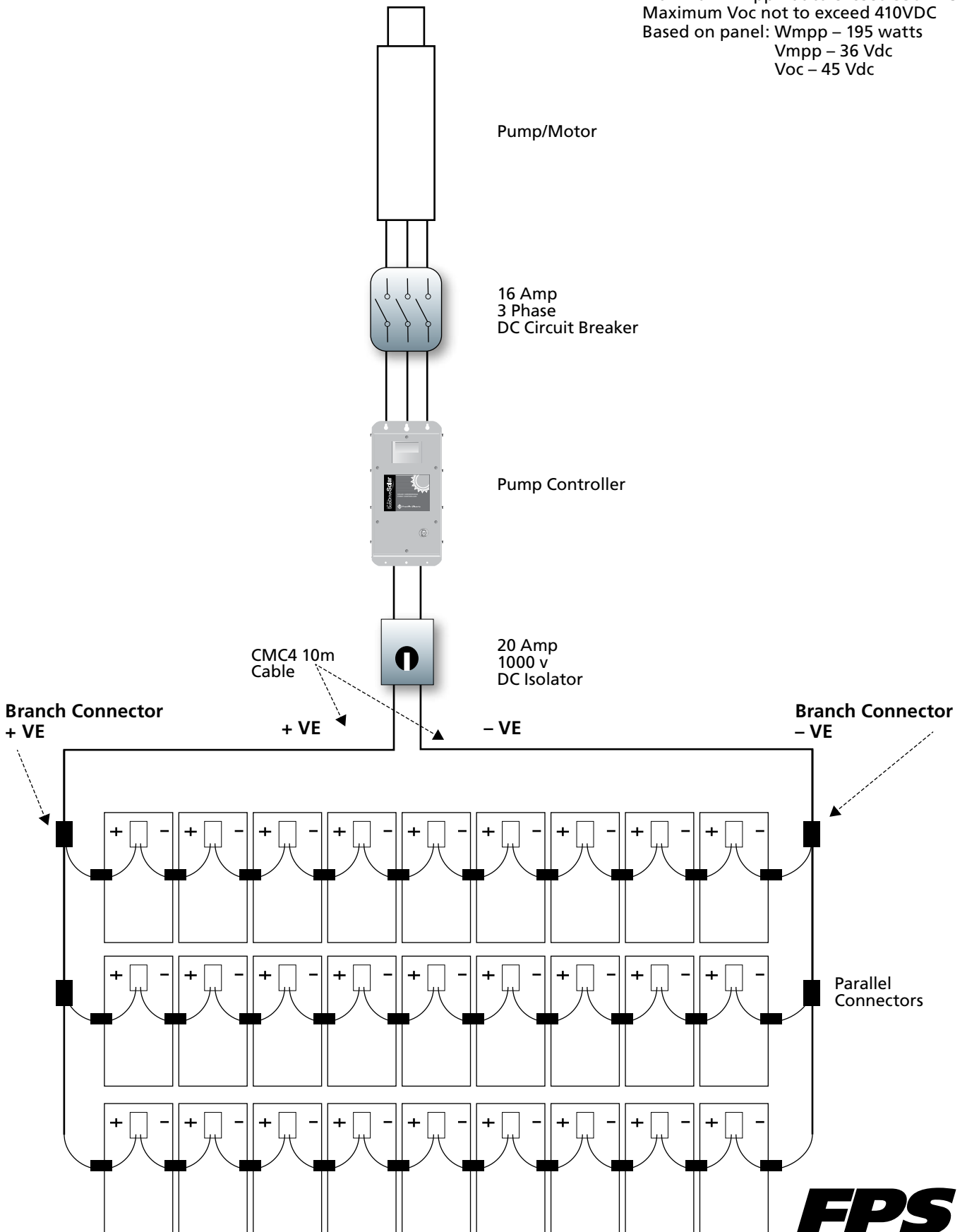
**Notes:**  
 Maximum Vmpp not to exceed 330VDC  
 Maximum Voc not to exceed 410VDC  
 Based on panel: Wmpp – 195 watts  
 Vmpp – 36 Vdc  
 Voc – 45 Vdc





**Wiring Diagram – 27 Panel**

**Notes:**  
 Maximum Vmpp not to exceed 330VDC  
 Maximum Voc not to exceed 410VDC  
 Based on panel: Wmpp – 195 watts  
 Vmpp – 36 Vdc  
 Voc – 45 Vdc



**27 Panel Solar Array**  
 3 x Strings of 9 Panels









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