



# Sun™ Modular Datacenter S20 Electrical Disconnect Option Guide

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This guide describes the contents of the Electrical Disconnect option kit for the Sun™ Modular Datacenter S20 (Sun MD). Although installation must be done by a licensed electrician, this guide describes how the disconnects are installed. They should be installed before you power up the Sun MD for the first time.

The Sun MD Electrical Disconnect option immediately removes all electrical power in the event of an emergency. To turn off the power, simply move the switches on each disconnect box from the on to the off position.

When you use the disconnect box(es) to shut down the power, all electricity to the Sun MD is turned completely off, except power to the battery backup on the fire control system, the Emergency Power Off (EPO) system, and the sensor units. There is no graceful shutdown.

The Sun MD has two possible power inputs, one on each side of the Sun MD enclosure. You will need one disconnect box for each power input used. Each box is mounted on the outside of the Sun MD enclosure. The disconnect box features a handle, switch, or breaker that may be required in some countries to be padlocked to maintain either an on or off position. This prevents the possibility of accidental power on or power off.

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**Note** – Depending on local regulations at your location, electrical disconnects might be required for your Sun MD. Consult your local Authority Having Jurisdiction (AHJ) to make sure that your installation conforms to all local and state codes. (The AHJ consists of local regulatory, safety and zoning authorities.) If you have determined that your local AHJ requires an external electrical disconnect for each power input, you may purchase them from Sun or from another vendor. Ensure that the disconnects that you purchase have the required safety listing or certification that is required by the AHJ and applicable local codes.

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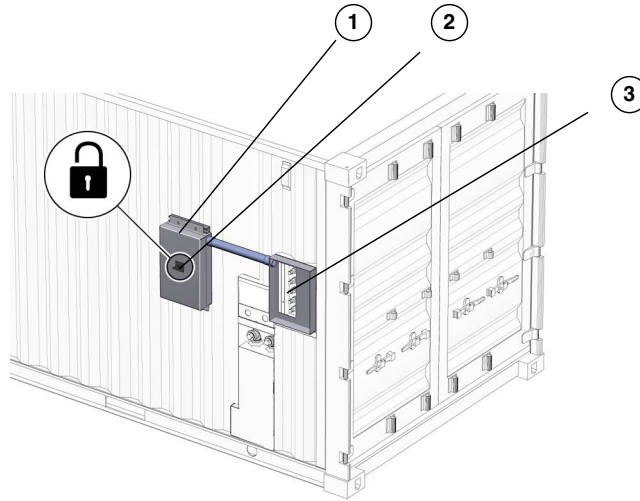
## Unpacking the Option Kit

The Sun Modular Datacenter S20 Electrical Disconnect option kit comes in two types: high-voltage for use in international installations, and standard-voltage for use in the US and Japan. Each kit includes the following components:

- Electrical disconnect box and lid
- Switch assembly
- Six 3/8-in. hex bolts with washers
- Six 3/8-in. clamping spring nuts

# Installing the Electrical Disconnect Box on the Outside of the Sun MD Enclosure

The following figure shows a disconnect box installed on a Sun MD enclosure. The disconnect box used in this example is the European high-power option.



**FIGURE 1** Disconnect Box Location

**Figure Legend** Components in the Figure

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- |   |                |
|---|----------------|
| 1 | Disconnect Box |
| 2 | On/Off Switch  |
| 3 | Power Inlets   |
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**Note** – The Sun MD uses one disconnect box for each power input, one on each side of the enclosure. You will need to have a disconnect box for each input you plan to use before you can perform the installation.

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The high-voltage disconnect requires one person to install. The standard-voltage disconnect requires two people to install.



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**Caution – DANGER:** Once the hardware components are installed, only a licensed electrician should connect and verify the power to the disconnect box.

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**Caution – DANGER:** Make sure that electrical power to the Sun Modular Datacenter S20 is off before you install the disconnect box. Otherwise, you could suffer severe injury or death as a result of electrical shock.

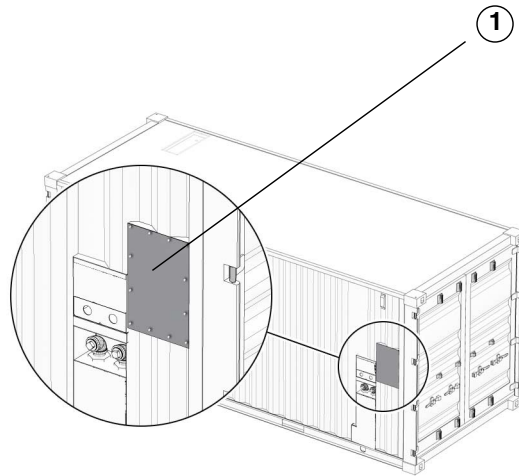
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## Locating the Unistrut Brackets and Power Inlet Covers

On each side of the Sun MD enclosure, there is a plain metal external box mounted on the Unistrut brackets. This box is the field wiring compartment, and it covers the connections to the EMI filter. The field wiring compartment must be removed before the disconnect box can be installed.

Each side of the Sun Modular Datacenter S20 enclosure includes two Unistrut brackets that are welded to the enclosure in the valley between corrugations in the side wall. These brackets enable you to mount the disconnect box with six spring nuts included in the hardware kit.

Each side of the Sun MD enclosure also has a power inlet cover. The power inlet cover is a small, plain metal box that covers the power inlet terminals on the outside of the Sun MD enclosure. This box must be removed before the power can be connected to the disconnect box.



**FIGURE 2** Power Inlet Cover Location

**Figure Legend** Components in the Figure

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1 Power Inlet Cover

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**Caution** – Do not drill additional holes into the Sun MD enclosure in order to mount a disconnect box. The Unistrut brackets are specifically provided for that purpose.

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### ▼ To Remove the Field Wiring Compartment

To remove the field wiring compartment, follow these steps:

1. **Remove the six bolts that secure the compartment to the side of the enclosure.**
2. **Lift the compartment off the enclosure and set it aside.**  
This exposes the EMI filter connections or the panelboard.

### 3. Remove the seal gasket.

Set aside the gasket for later use.

## ▼ To Assemble the Disconnect Box

Before you can install the disconnect box, you need to punch holes in the rear surfaces of the disconnect box. These holes enable you to use bolts to attach the disconnect box to the Unistrut brackets. The disconnect box requires holes to be punched to enable conduit to be installed, and to connect to primary electrical service.

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**Note** – The AHJ provides guidelines for punching holes in the disconnect box and power inlet cover and for routing conduit. Consult your local AHJ for the guidelines that apply in your locale.

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To prepare the disconnect box for installation, perform the following steps:

#### 1. Punch the required hole(s) in the disconnect box.

#### 2. Mount the conduits to the disconnect box using conduit lock nuts.

A low-voltage installation requires two conduits for each disconnect box. A high-voltage installation requires one conduit.

## ▼ To Mount the Disconnect Box on the Sun MD Enclosure

#### 1. Attach the six spring nuts (included in the hardware kit) to the Unistrut bracket.

#### 2. Lift the disconnect box and align the holes in the back of box to the spring nuts on the bracket.

#### 3. Secure the disconnect box to the bracket using the six 3/8 x 1-in. hex bolts and washers included in the hardware kit.

#### 4. Repeat the installation procedures to install the disconnect box on the other side of the Sun MD enclosure.



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**Caution** – The remaining steps in this procedure must be performed by a licensed electrician.

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## ▼ To Connect Power to the Disconnect Box

#### 1. Connect the disconnect box to the EMI filter or to the panelboard.

#### 2. Remove the twelve 1/4-in. hex bolts that secure the power inlet cover, and save the bolts for later use.

This exposes the power inlets used to connect power to the disconnect box.

#### 3. Punch the required holes in the power inlet cover.

These holes enable you to connect the conduit to the power inlet cover.

#### 4. Connect electrical power to the disconnect box.

#### 5. Install the seal gasket and lid onto the disconnect box.

#### 6. Reinstall the power inlet cover, using the twelve bolts you removed in [Step 4](#).

#### 7. Repeat this procedure to connect power to the disconnect box on the other side of the Sun MD enclosure.

#### 8. Power up the Sun MD.

For more information on the power-up procedure, refer to the *Sun Modular Datacenter Installation Guide*.

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**Note** – The Sun MD documentation is available online through a password-protected web site. Contact your Sun Sales Representative for information about accessing the Sun MD product documentation.

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## ▼ To Disconnect the Power

If you have padlocked the switch on the disconnect box, you will need to unlock and remove the padlock before turning the switch.

- ◆ **To disconnect the power from the Sun MD, move the switch on each disconnect box from the on position to the off position.**

This turns off power completely, except for the power to the battery backup on the fire control system, the EPO, and the sensor units.



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**Caution** – If you have two disconnect boxes installed, remember to disconnect the power on both sides of the Sun MD enclosure.

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