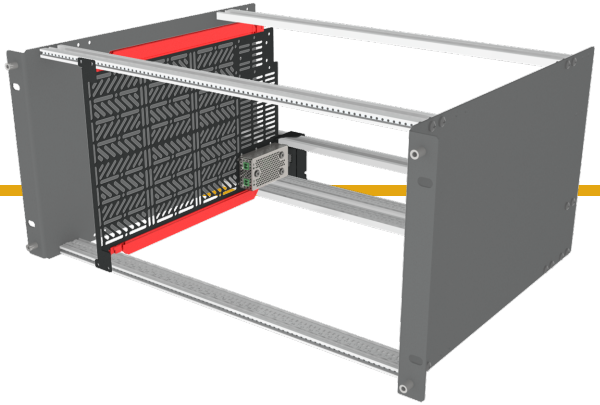

ONErack$_{\text{patent pending}}$ module

Installation Guide V1.20

MNL-1RK-MOD V1.20

Oct 2016

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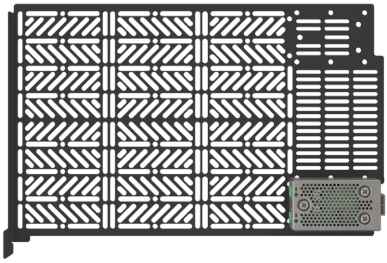
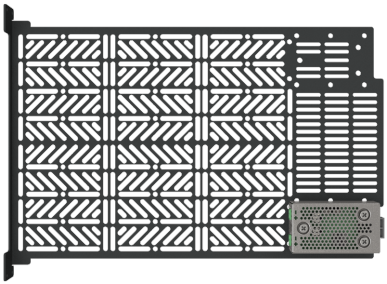
In the box

1x ONErack module, including voltage selector:

Either with lower tab,



or with upper and lower tabs

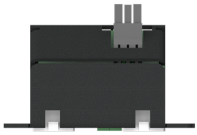


1x daisy-chain cable

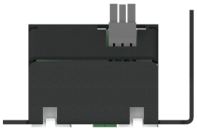
2x guide rails

1x rear dock:

Either without bracket,



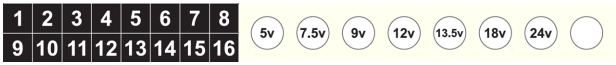
or with bracket



3x power connectors

6x M3 screws (**Note:** if your module has only the lower tab, you only need 4 screws)

1x label sheet



1x A3 template

> In the unlikely event that a component is missing or damaged, please contact tech.usa@tvone.com or tech.europe@tvone.com.

Tools

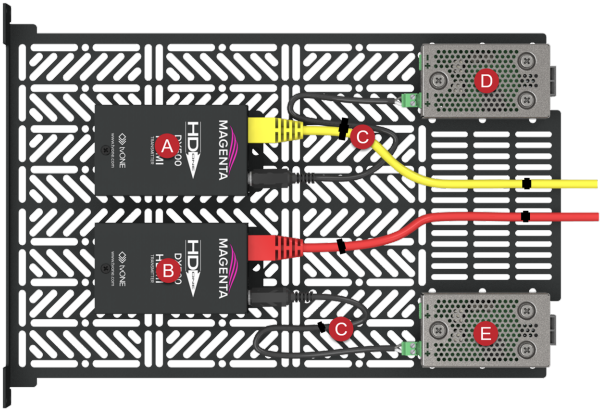
Pozidriv® PZ1 crosshead screwdriver
2 mm flat head screwdriver
Wire cutters
Wire strippers
Voltmeter

Optional:

Self-adhesive hook and loop
Scissors
Cable ties
Third-party mounting hardware

Mounting devices on ONErack modules

The innovative ONErack module enables you to efficiently mount multiple devices. The module provides adjustable voltage and supports many ways to mount devices and secure cables. When you add a second voltage selector, you can provide two voltage options to devices mounted on the module.



- A Secured with screws
- B Secured with self-adhesive hook and loop
- C Secured with cable ties
- D Optional second voltage selector
- E Voltage selector

Tips for mounting your devices

When you choose how to place your devices:

- Allow enough cable to be able to access any sources, for example, Ethernet or external power.
- Allow enough cable to pull the module forward so you can access your devices. If your cables are short, consider mounting the device further back on the module.
- Allow enough room around each device for ventilation.
- Allow enough room to reach the buttons of your devices.

Powering ONErack modules

ONErack modules are designed to work with the ONErack internal power supply, but there are other options – you could use pass-through power or an external power supply.

ONErack internal power supply

The internal power supply works with the voltage selector to give you seven DC voltage options:

- 5 V @ 7 A
- 7.5 V @ 4.7 A
- 9 V @ 3.9 A
- 12 V @ 2.9 A
- 13.5 V @ 2.6 A
- 18 V @ 1.9 A
- 24 V @ 1.5 A

If you want to mount devices on a ONErack module that need two different voltages, you can connect a second voltage selector, sold separately. Ask your sales representative about 1RK-XTRA-PWR.

ONErack pass-through power

If the voltage your device needs is not available from the voltage selector, then you can connect your device's power supply through the dock. Depending on the capabilities of your power supply, you might be able to supply power to multiple devices, but at a fixed voltage. You can use a power supply up to 24 V @ 1.5 A.

External power supply

If you don't want to cut your power lead, you can bypass the dock and connect your power supply directly to your device. With this method you can only provide power to a single device.

Fitting ONErack modules

This guide assumes you have already built a ONErack chassis and fitted an internal power supply, or chosen an alternative method for powering your devices.

Read more about powering ONErack modules on page 4.

See the installation guides for the chassis and internal power supply.

Overview of fitting ONErack modules

1. Mount one or more devices on your ONErack module.

   > We recommend that you mount at least your tallest device.

   Read more on page 6.

2. Fit the guide rails and insert the module.

   Read more on page 6.

3. Fit the dock and secure it with two M3 screws. Use the module as a guide to align the dock.

   Read more on page 6.

4. Optional: fit all your remaining modules.
5. Mount any remaining devices, select a voltage, then connect and secure your device cables.

   Read more on page 8.

6. Insert the module and power on the ONErack system.

Fitting the guide rails and dock

> To avoid damaging your ONErack, build it in a clean, tidy area.

Before you fit the guide rails and dock, mount at least your tallest device on the ONErack module. This helps you to determine the positions of the modules. If you intend to fit several modules at once, fit each one with the tallest device for that module.

Read about mounting devices on ONErack modules on page 3.

1. Clip the guide rails into the lower and upper mounting rails.

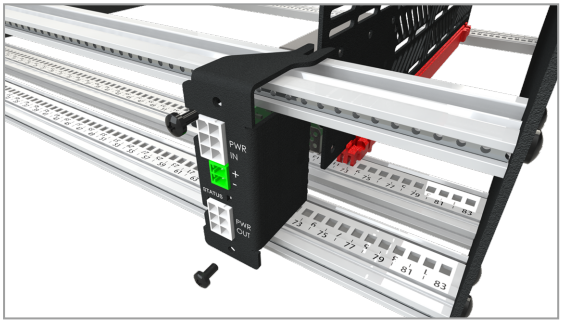
   Use the numbers to help you fit the guide rails straight and in line with one another. You can also use the template included in the box.

   Make sure the groove is on the right when you look from the front of the chassis.

2. Slide the module into the groove in the guide rails.

3. Screw the module in place temporarily with one or two M3 screws.
4. At the rear of the chassis, push the dock into the voltage selector.

   If you have a dock with a bracket, use the slot in the bracket to help you align the dock. If you have a dock without a bracket, push the connector on the dock into the connector on the voltage selector.



5. Screw the dock in place with two M3 screws.

Connecting cables

You can connect your devices to the internal power supply, to pass-through power, or to their own external power supplies.

Read more about powering ONErack modules on page 4.

Read about connecting devices to the internal power supply on page 8.

Read about connecting devices to pass-through power on page 12.

Read about connecting your devices to external power on page 17.

Connecting your devices to the internal power supply

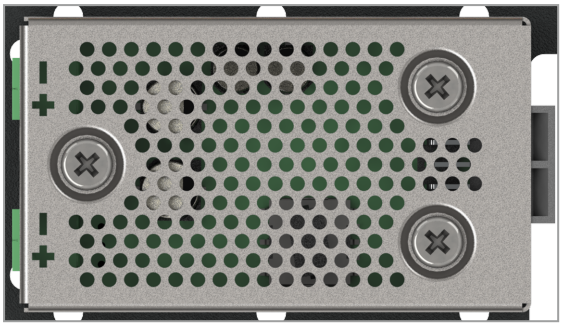
> ⚠ **Risk of damage to equipment**
>
> - Make sure you set the voltage selector to the correct value for your device or devices.
> - Do not connect two devices that need different voltages to the same voltage selector.
> - If you have devices that need different voltages, fit a second voltage selector or use a second ONErack module.
> - Do not rotate the voltage selector switch when the ONErack system is powered.
> - Before you cut any power leads, record the polarity and voltage for each one with a suitable meter.
> - Before you connect any rewired DC power connector to any device, check that the polarity and voltage match what you recorded before you cut the power lead.
> - Remove your device's power lead from the mains supply before you cut the cable.

- Cutting power leads should only be done by competent, qualified personnel – if in doubt, consult a qualified electrician.
- The internal power supply can supply up to 200 W to a single daisy-chain, or up to 250 W across two daisy-chains. Do not overload the internal power supply. If the internal power supply is overloaded, it will not start.
- Each module can supply up to 35 W. Do not overload the modules.
- If you mount a heater on a module, place it as far as possible away from the voltage selector. Allow enough space around the heater for cooling.

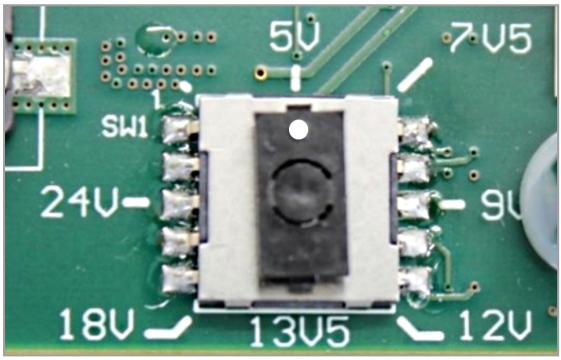
1. Remove the screws holding the ONErack module in place and remove the module.

2. Finish mounting your devices on the ONErack module.

3. Undo the screws on top of the voltage selector and remove the cover.



4. Turn the switch inside the voltage selector until the white dot points to the right voltage for your devices.



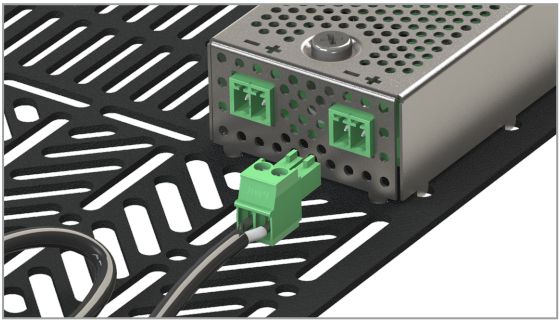
5. Replace the cover of the voltage selector and screw in place.
6. Cut the power lead for your device.

   Make sure you leave enough length to reach the voltage selector.

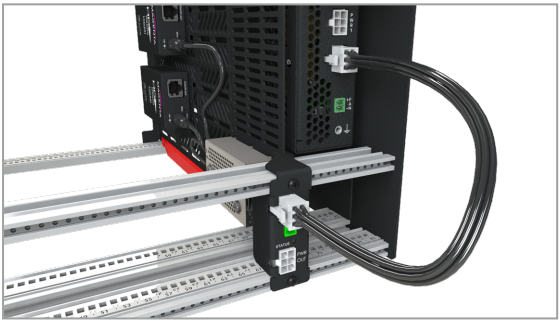
7. Strip the insulation from the ends of the wires and identify which is positive and which is negative.

8. Insert the stripped ends into the power connector. Make sure that the polarity is correct, as shown, before you tighten the screws.

9. Insert the power connector into the voltage selector.



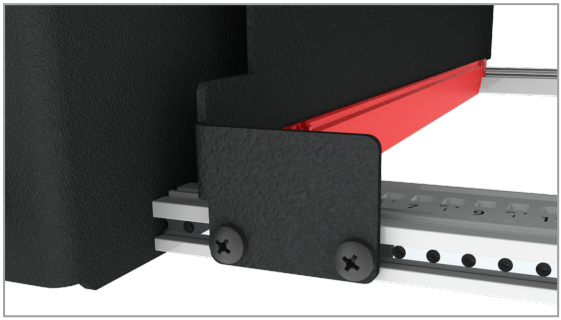
10. Use a long daisy-chain cable to connect the internal power supply to the module.



When you connect further modules, use the shorter daisy-chain cables to connect the output of the last dock to the input of the next dock.

11. Check that all your devices are connected with the correct voltages.
12. Connect your ONErack module to the dock and screw it in place.

    If you have both upper and lower tabs, use four screws. If you have the lower tab only, use two screws.



13. Connect the internal power supply to an AC power outlet and check that your devices work correctly.

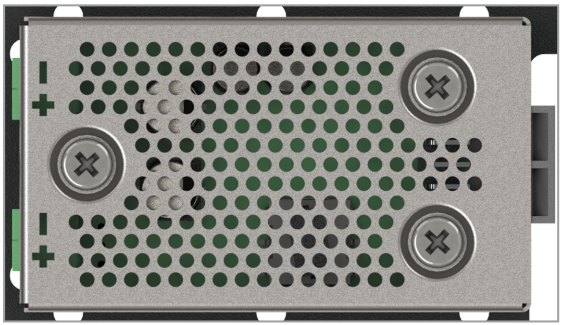
Connecting your devices to pass-through power

> ⚠ **Risk of damage to equipment**
>
> - Before you cut any power leads, record the polarity and voltage for each one with a suitable meter.
> - Before you connect any rewired DC power connector to any device, check that the polarity and voltage match what you recorded before you cut the power lead.
> - Remove your device's power lead from the mains supply before you cut the cable.

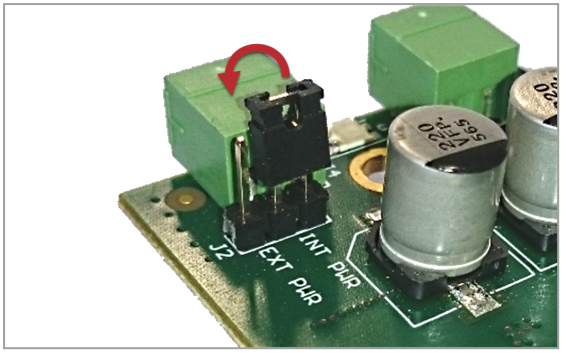
- Cutting power leads should only be done by competent, qualified personnel – if in doubt, consult a qualified electrician.
- Each module can supply up to 35 W. Do not overload the modules.

1. Remove the screws holding the ONErack module in place and remove the module.

2. Finish mounting your devices on the ONErack module.
3. Undo the screws on top of the voltage selector and remove the cover.



4. Move the jumper from INT POWER to EXT POWER.



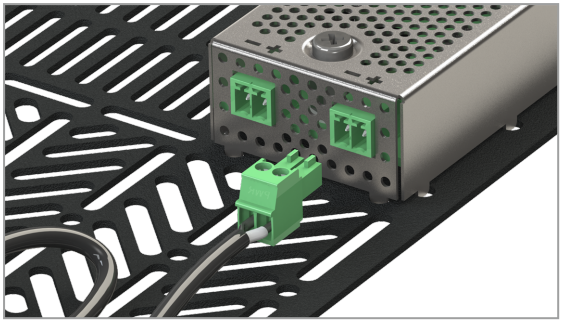
Any power connected to the voltage selector now bypasses the voltage selector switch.

5. Replace the cover of the voltage selector and screw in place.
6. Cut the power lead for your device.

   Make sure you leave enough length to reach the voltage selector.

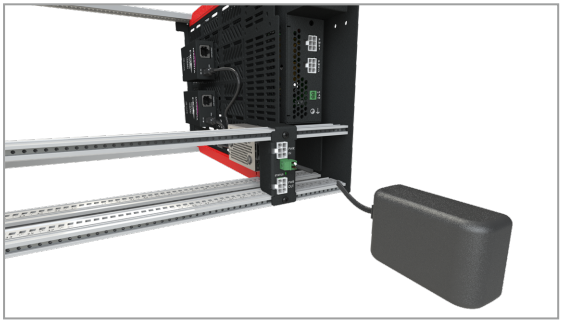
7. Strip the insulation from the ends of the wires and identify which is positive and which is negative.
8. Insert the stripped ends into the power connector. Make sure that the polarity is correct, as shown, before you tighten the screws.

9. Insert the power connector into the voltage selector.

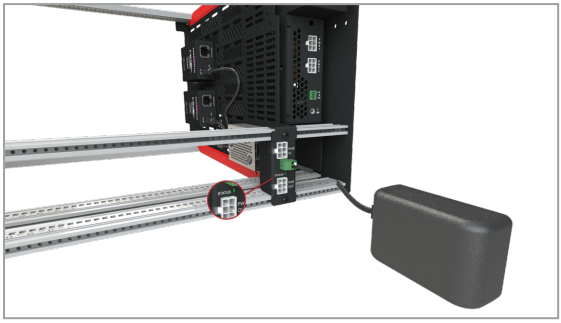


10. Repeat steps **6** to **8** for the other piece of the power lead.

11. Insert the power connector into the dock.



12. Plug the power lead into the mains supply.

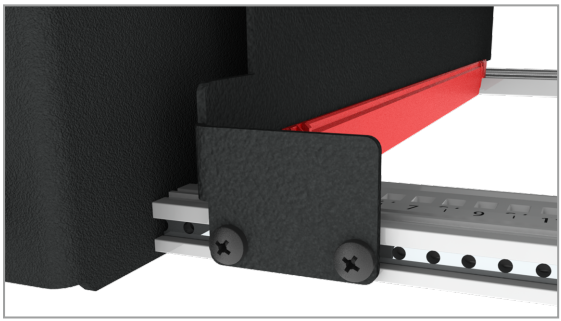


- If the STATUS LED is green, the polarity is correct. Go to the next step.
- If the STATUS LED is red, the polarity is not correct. Repeat step 10.
- If the STATUS LED is orange, the power lead is for AC power and is not supported by the ONErack system. Use the external power method.

  Read about the external power method on page 17.

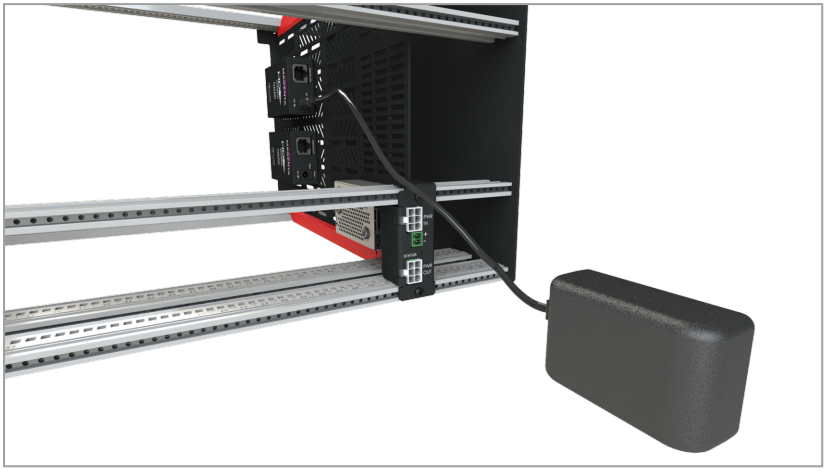
13. Connect your ONErack module to the dock and screw it in place.

    If you have both upper and lower tabs, use four screws. If you have the lower tab only, use two screws.



Connecting your devices to external power

You can connect any of your devices using its own power supply.



Safety

⚠ Risk of damage in transit

Your ONErack and devices can be damaged in transit.

- Do not ship the ONErack system with modules fitted.
- Package modules separately.
- You can ship modules with mounted devices.

⚠ Risk of damage to equipment

- Make sure you set the voltage selector to the correct value for your device or devices.
- If you have devices that need different voltages, fit a second voltage selector or use a second ONErack module.
- Do not rotate the voltage selector switch when the ONErack system is powered.
- Record the polarity and voltage for each device's DC power lead with a suitable meter.
- Remove each device's power lead from the mains supply before you cut the cable.
- Cutting power leads should only be done by competent, qualified personnel – if in doubt, consult a qualified electrician.
- Each daisy-chain cable is protected by an 8 A fuse. Do not overload the cables.
- The internal power supply can supply up to 200 W to a single daisy-chain, or up to 250 W across two daisy-chains. Do not overload the internal power supply. If the internal power supply is overloaded, it will not start.
- Each module can supply up to 35 W. Do not overload the modules.

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