



Ryobi 18V Battery latching connector (one-piece, no supports)



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Summary

Latching connector for Ryobi 18V batteries. Prints in one piece, no supports, uses Keystone 209 battery contacts.

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This Ryobi 18V battery latching connector was designed to be simpler and better than the existing models:

1. Prints as a single piece
2. No support needed
3. Uses inexpensive **Keystone 209** battery contacts, mounted so they can't slide off in use.
4. Useful for other projects like battery conversions, chargers, etc.
5. Just works

The result works great – will soon be publishing another model using the Ryobi 18V connector to power a USB charger.

Parts required:

Qty	Part
2	"Keystone 209" Battery Connectors. Plenty on Amazon and Ebay. example: 50pcs Keystone 209 Battery Contacts on Amazon
1	Printed part
4	medium flat-head screws if you plan to mount it. Size 4 or 6

Assembly Instructions (see pictures):

1. print model with no supports. PLA, ABS or PETG are all fine.
 - Make sure walls have are sliced with at least 2 lines thick, preferably 3.
2. solder the wires to the contacts **before** attaching to the printed part to avoid melting the part.
 - Bend about 2-3mm of wire at 90 degrees and solder, so wire doesn't interfere with attaching connector
 - use solder flux for better solder adhesion to the contact
3. Clip the contacts onto the side tabs, see pictures for installation.
 - small flat blade screwdriver will help install the clips
4. Print the template if you plan to mount the connector in a board or panel. Use the template to mark the installation cutout and mounting holes.

Note: if the battery doesn't snap in easily, shave a tiny bit off the latch "fingers" to help it snap shut.

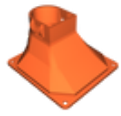
Why did I design this?

I appreciate the other Ryobi 18V connector models that have been out there for a number of years, but wasn't really happy with any of them. Some require printing and assembling multiple parts, some require a ton of supports, some have connectors that slip out of place during use, some are already built into a purpose-built device that I don't need/want.

I just wanted something sturdy that works really well, is reliable in use, easy to print, doesn't require expensive connectors and is adaptable to a lot of applications. No doubt it can be improved, but IMO it's a step forward. Hope you enjoy it!

Designed in FreeCAD, which is a very powerful but also temperamental and cantankerous piece of software.

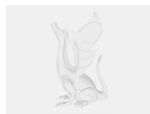
Model files



ryobi18v_latch_v1.stl



ryobi18v_latch_mount_template.stl



ryobi18v_latch_v1.step

☐ Step file for higher resolution model

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