

Mid Clamps



Item Number	Description (Mill Finish)	Item Number	Description (Black Finish)
29-7000-105	Kit, 4pcs, Mid Clamp A/B/I, 2.00", Hex	29-7000-105B	Kit, 4pcs, Mid Clamp A/B/I, 2.00", Hex
29-7000-101	Kit, 4pcs, Mid Clamp C/D/J/E, 2.25", Hex	29-7000-101B	Kit, 4pcs, Mid Clamp C/D/J/E, 2.25", Hex
29-7000-108	Kit, 4pcs, Mid Clamp F/K/G, 2.50", Hex	29-7000-108B	Kit, 4pcs, Mid Clamp F/K/G, 2.50", Hex
29-7000-104	Kit, 4pcs, Mid Clamp H 2.75", Hex	29-7000-104B	Kit, 4pcs, Mid Clamp H 2.75", Hex
29-70TB-105	Kit, 4pcs, Mid Clamp A/B/I, 2.00", Tbolt	29-70TB-105B	Kit, 4pcs, Mid Clamp A/B/I, 2.00", Tbolt
29-70TB-101	Kit, 4pcs, Mid Clamp C/D/J/E, 2.25", Tbolt	29-70TB-101B	Kit, 4pcs, Mid Clamp C/D/J/E, 2.25", Tbolt
29-70TB-108	Kit, 4pcs, Mid Clamp F/K/G, 2.50", Tbolt	29-70TB-108B	Kit, 4pcs, Mid Clamp F/K/G, 2.50", Tbolt
29-70TB-104	Kit, 4pcs, Mid Clamp H, 2.75", Tbolt	29-70TB-104B	Kit, 4pcs, Mid Clamp H, 2.75", Tbolt

Mid Clamps are used when top-mounting modules to the top slot of either our Standard (XRS) and/or our Light (XRL) Rails (fits both). These clamps are not dependent upon the module's mounting holes. These Mid Clamps may be ordered with Hex bolts or with T-bolts. Mid Clamps require .25" between modules thus maximizing the total number of modules per set of rails. Available in clear or black anodized finish.

Grounding Mid Clamps



Item Number	Description (Clear Finish)	Item Number	Description (Black Finish)
RS-GD-MCL-200	Kit, 4pcs, 2.00", Tbolt	RS-GD-MCL-200B	Kit, 4pcs, 2.00", Tbolt
RS-GD-MCL-225	Kit, 4pcs, 2.25", Tbolt	RS-GD-MCL-225B	Kit, 4pcs, 2.25", Tbolt
RS-GD-MCL-250	Kit, 4pcs, 2.50", Tbolt	RS-GD-MCL-250B	Kit, 4pcs, 2.50", Tbolt
RS-GD-MCL-275	Kit, 4pcs, 2.75", Tbolt	RS-GD-MCL-275B	Kit, 4pcs, 2.75", Tbolt

Grounding Mid Clamps are used when top-mounting modules to the top slot of either our Standard (XRS) and/or our Light (XRL) Rails (fits both). Each Grounding Mid Clamp pierces through the anodized coatings of both the module frame and the mounting rail to form secure electrical bonds, which are repeated throughout the array. These clamps are not dependent upon the module's mounting holes. These Mid Clamps may be ordered with T-bolts. Mid Clamps require .25" between modules thus maximizing the total number of modules per set of rails. Available in clear or black finish.

End Clamps



Item Number	Description	Item Number	Description
29-7000-125	Kit, 4pcs, End Clamp I 1.25" Mill	29-7000-125B	Kit, 4pcs, End Clamp I, 1.25" Black
29-7000-134	Kit, 4pcs, End Clamp A 1.34" Mill	29-7000-134B	Kit, 4pcs, End Clamp A, 1.34" Black
29-7000-224	Kit, 4pcs, End Clamp B 1.41" Mill	29-7000-224B	Kit, 4pcs, End Clamp B, 1.41" Black
29-7000-157	Kit, 4pcs, End Clamp C 1.57" Mill	29-7000-157B	Kit, 4pcs, End Clamp C, 1.57" Black
29-7000-165	Kit, 4pcs, End Clamp J 1.65" Mill	29-7000-165B	Kit, 4pcs, End Clamp J, 1.65" Black
29-7000-171	Kit, 4pcs, End Clamp E 1.71" Mill	29-7000-171B	Kit, 4pcs, End Clamp E, 1.71" Black
29-7000-214	Kit, 4pcs, End Clamp F 1.81" Mill	29-7000-214B	Kit, 4pcs, End Clamp F, 1.81" Black
29-7000-187	Kit, 4pcs, End Clamp K 1.87" Mill	29-7000-187B	Kit, 4pcs, End Clamp K, 1.87" Black
29-7000-204	Kit, 4pcs, End Clamp G 1.97" Mill	29-7000-204B	Kit, 4pcs, End Clamp G, 1.97" Black
29-7000-230	Kit, 4pcs, End Clamp H 2.30" Mill	29-7000-230B	Kit, 4pcs, End Clamp H, 2.30" Black

End clamps are used when top-mounting modules to the top slot of both our Standard (XRS) and Light (XRL) Rails (these end clamps fit both rail types). These clamps are not dependent upon the module's mounting holes. IronRidge End Clamps require 1.5" of rail on each end and vary in height depending on the module being mounted. Please use the sizing chart on the next page (Page 12) to determine the right part for your project. Also available in black anodized finish. Black is special order, call for additional details.

Under Clamps



Item Number	Description
29-7000-117	Kit, 4pcs, Under Clamp, Clear

Under clamps are typically used when it is difficult to access the top of the panel and install a top-down bolted clamp or when you do not want clamps visible from the top. Under clamps can be installed only into the XRS rail and utilizes the upper slot on the back side of the rail. Four (4) clamps are required per panel and replaces end and mid clamps. Under clamps are sold in 4 packs with required hardware.

Calculating Rail Length

Calculate total required mounting widths as follows:

Add module widths + .25" space between modules for mid clamps + 1.5" to each end for end clamping. This formula will provide you with total width of rails. *If rail splices are needed, see page 7.

For example, to mount five modules that are each 40" wide, the calculations are as follows:

- $5 \times 40" = 200"$ (account for width of modules in portrait mode)
- $4 \times .25" = 1"$ (account for width of mid-clamps between the five modules)
- $2 \times 1.5" = 3"$ (account for two end clamps on ends of rail)
- $200" + 1" + 3" = 204"$ (total length of one rail)
- Two 18' rails will be required to mount these five modules

*IronRidge stock rails lengths: 12', 14', 16', and 18'. Custom lengths available via special order, contact IronRidge Customer Support for additional details at 800-227-9523, or support@IronRidge.com.

Calculating Panel Clamp Size

Module Clamp size depends on the module thickness. Use the table below to determine which Module Clamp will fit your projects module thickness. Reminder: Our Mid and End Clamps fit both Standard (XRS) and Light (XRL) Rails.

Module Thickness		Clamp Info		Part Numers			
Mm	Inches	Type	Bolt Height	End Clamp	Hex Mid Clamp	T-bolt Mid Clamp	Grounding Mid Clamp
31.0 - 32.5	1.22 - 1.28	I	2.00"	29-7000-125	29-7000-105	29-70TB-105	RS-GD-MCL-200
33.3 - 34.8	1.31 - 1.37	A	2.00"	29-7000-134	29-7000-105	29-70TB-105	RS-GD-MCL-200
34.8 - 36.8	1.37 - 1.45	B	2.00"	29-7000-224	29-7000-105	29-70TB-105	RS-GD-MCL-225
39.0 - 41.0	1.53 - 1.61	C	2.25"	29-7000-157	29-7000-101	29-70TB-101	RS-GD-MCL-225
41.1 - 42.7	1.62 - 1.68	J	2.25"	29-7000-165	29-7000-101	29-70TB-101	RS-GD-MCL-250
42.7 - 44.2	1.68 - 1.74	E	2.25"	29-7000-171	29-7000-101	29-70TB-101	RS-GD-MCL-250
45.0 - 47.0	1.77 - 1.85	F	2.50"	29-7000-214	29-7000-108	29-70TB-108	RS-GD-MCL-250
46.7 - 48.3	1.84 - 1.90	K	2.50"	29-7000-187	29-7000-108	29-70TB-108	RS-GD-MCL-275
49.0 - 51.1	1.93 - 2.01	G	2.50"	29-7000-204	29-7000-108	29-70TB-108	RS-GD-MCL-275
57.4 - 58.9	2.26 - 2.32	H	2.75"	29-7000-230	29-7000-104	29-70TB-104	Unsupported