Bracket Guide

MilDef Brackets

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1 Document Information

Target Products

This document contains information about products:

9000-033 Rev. 03

Bill Of Material

The document uses the following BOM(s):

BOM Brackets, 9000-033-03
BOM Brackets, 9022-002-01
BOM Brackets, 9022-9001-01
BOM Brackets, 9022-9002-01
BOM Brackets, 9022-9003-01
BOM Brackets, 9022-9004-01
BOM Brackets, 9022-9005-01
BOM Brackets, 9022-9006-01
BOM Brackets, 9022-9007-01
BOM Brackets, 9022-9008-01
BOM Brackets, 9022-9009-01
BOM Brackets, 9022-9010-01
BOM Brackets, 9022-9011-01
BOM Brackets, 9022-9012-01
BOM Brackets, 9022-9014-01
BOM Brackets, 9022-9017-01
BOM Brackets, 9022-9013-02

Revision History

This document has gone through the following revisions:

Rev.	Description	Date	Author	Checked	Approved
01	First released version	2018-11-14	ANO	RO	JEK
02	Exchanged 9022-002 with article number 811-1251	2019-03-04	ANO	ALH	JEK
03	Updated topic One 1U and one 2U Unit in a 19" Rack	2019-03-28	ANO	JEK	OF
04	Added Bracket Holder Rear Assembly, bracket 18.9in GND GS Kit and Bracket 13in Kit	2020-04-28	AOL	ALH	JEK
05	Update Tools	2020-05-15	AOL	ALH	JEK
06	Updated images, BOM and added Maximum Assembly Dimensions	2023-12-04	THL	JEK	JEK

2 Tools

2.1 Tools

The assembly of the brackets in this document requires the following tools:

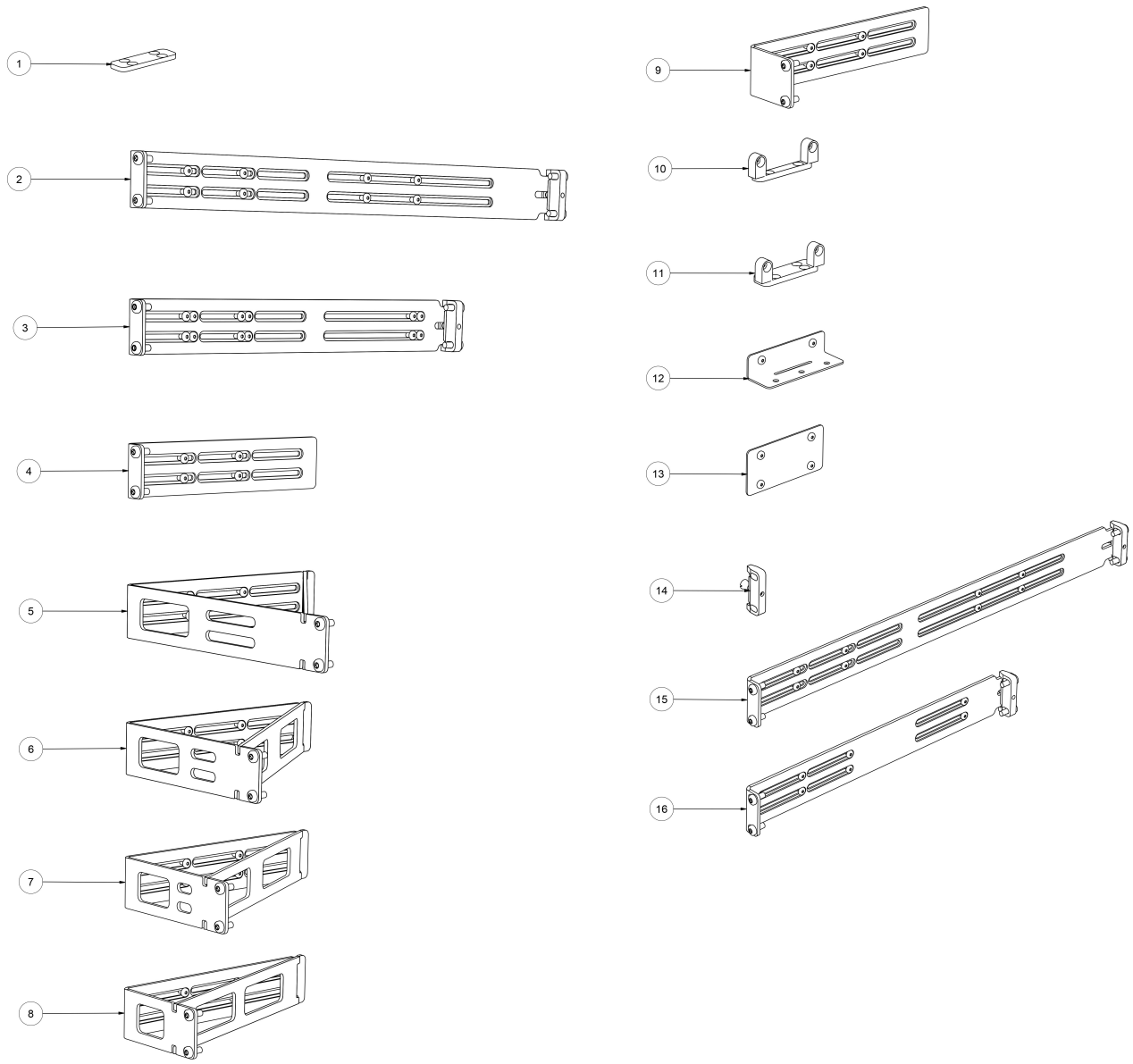
- Torx screwdriver T8
- Torx screwdriver T10

Recommended Torque:

- M4 screws: 2 Nm
- M5 screws: 4 Nm

3 Drawings and BOMs

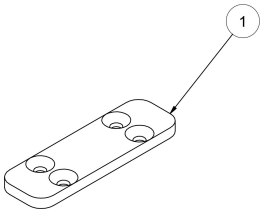
3.1 Drawing and BOM Brackets, 9000-033-03



Pos	Qty	Part No.	Title	Description
1	1	9022-002	BRACKET TOP COATED RAL6031	
2	1	9022-9001	BRACKET 18.9inch KIT R6031	
3	1	9022-9002	BRACKET 14inch KIT R6031	
4	1	9022-9003	BRACKET 19inch2 HR KIT R6031	
5	1	9022-9004	BRACKET 19inch2 FR KIT R6031	
6	1	9022-9005	BRACKET 19inch6 HR KIT R6031	

Pos	Qty	Part No.	Title	Description
7	1	9022-9006	BRACKET 19inch4 HR KIT R6031	
8	1	9022-9007	BRACKET 19inch6 x2 HR KIT R6031	
9	1	9022-9008	BRACKET 19inch4 +6 HR KIT R6031	
10	1	9022-9009	BRACKET TOP 1U+2U KIT R6031	
11	1	9022-9010	BRACKET TOP 1U x3 KIT R6031	
12	1	9022-9011	BRACKET BOTTOM KIT R6031	
13	1	9022-9012	BRACKET VERTICAL KIT R6031	
14	1	9022-758	BRACKET HOLDER REAR ASSEMBLY	
15	1	9022-9014	BRACKET 18,9in GND GS KIT R6031	
16	1	9022-9017	BRACKET 13n KIT R6031	

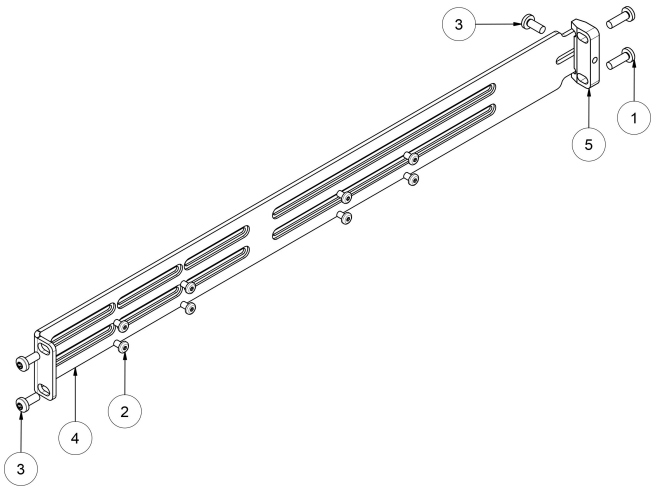
3.2 Bracket Top Coated R6031, 811-1251



Pos	Qty	Part No.	Title	Description
1	1	811-1251	BRACKET TOP COATED	9022-002

3.3 Bracket 18.9" Kit R6031, 9022-9001

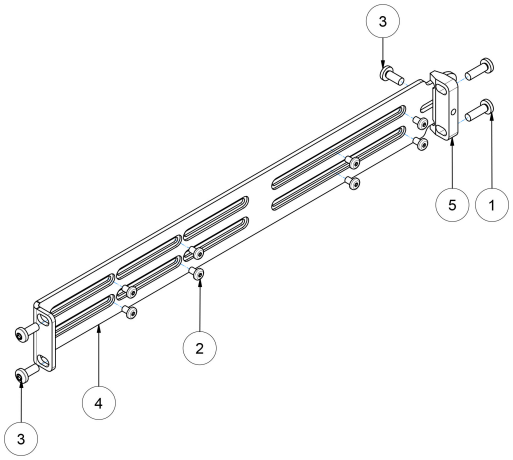
Mounting depth front / back rails: 468-491 mm



Pos	Qty	Part No.	Title	Description
1	2	821-1261	SCREW	MRT 8.8 M5x16 ZiNi BL TU
2	8	821-1308	SCREW	KTS 8.8 M4x6 svkr
3	3	821-2687	SCREW	MRT 8.8 M5x12 ZiNi BL
4	1	9022-742	BRACKET SIDE 18.9'' COATED R6031	
5	1	9022-754	BRACKET HOLDER REAR COATED R6031	

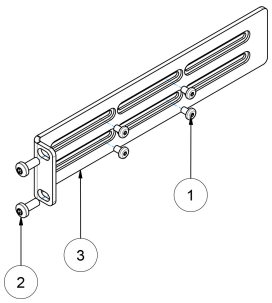
3.4 Bracket 14" Kit R6031, 9022-9002

Mounting depth front / back rails: 348-370 mm



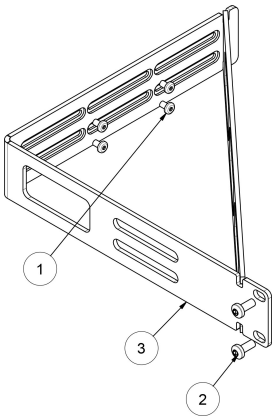
Pos	Qty	Part No.	Title	Description
1	2	821-1261	SCREW	MRT 8.8 M5x16 ZiNi BL TU
2	8	821-1308	SCREW	KTS 8.8 M4x6 svkr
3	3	821-2687	SCREW	MRT 8.8 M5x12 ZiNi BL
4	1	9022-752	BRACKET SIDE 14" COATED R6031	
5	1	9022-754	BRACKET HOLDER REAR COATED R6031	

3.5 Bracket 19"/2 HR Kit R6031, 9022-9003



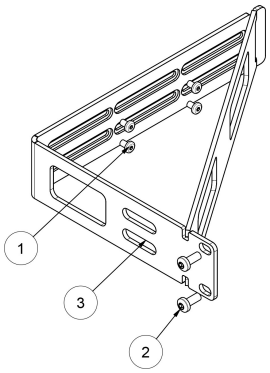
Pos	Qty	Part No.	Title	Description
1	4	821-1308	SCREW	KTS 8.8 M4x6 svkr
2	2	821-2687	SCREW	MRT 8.8 M5x12 ZiNi BL
3	1	9022-764	BRACKET 19"/2 HR R6031	

3.6 Bracket 19"/2 FR Kit R6031, 9022-9004



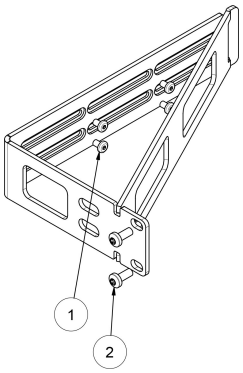
Pos	Qty	Part No.	Title	Description
1	4	821-1308	SCREW	KTS 8.8 M4x6 svkr
2	2	821-2687	SCREW	MRT 8.8 M5x12 ZiNi BL
3	1	9022-774	BRACKET 19"/2 FR R6031	

3.7 Bracket 19"/6 HR Kit R6031, 9022-9005



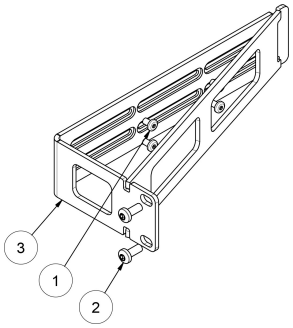
Pos	Qty	Part No.	Title	Description
1	4	821-1308	SCREW	KTS 8.8 M4x6 svkr
2	2	821-2687	SCREW	MRT 8.8 M5x12 ZiNi BL
3	1	9022-768	BRACKET 19"/6 HR R6031	

3.8 Bracket 19"/4 HR Kit R6031, 9022-9006



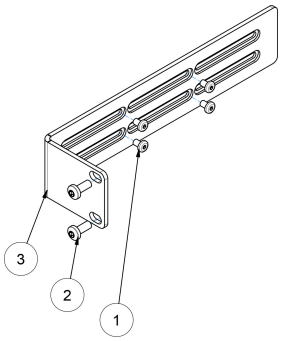
Pos	Qty	Part No.	Title	Description
1	4	821-1308	SCREW	KTS 8.8 M4x6 svkr
2	2	821-2687	SCREW	MRT 8.8 M5x12 ZiNi BL
3	1	9022-766	BRACKET 19"/4 HR R6031	

3.9 Bracket 19"/6 x 2 HR Kit R6031, 9022-9007



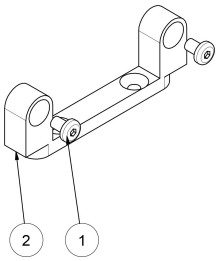
Pos	Qty	Part No.	Title	Description
1	4	821-1308	SCREW	KTS 8.8 M4x6 svkr
2	2	821-2687	SCREW	MRT 8.8 M5x12 ZiNi BL
3	1	9022-770	BRACKET 19"/6 x2 HR R6031	

3.10 Bracket 19"/4 + 19"/6 HR Kit R6031, 9022-9008



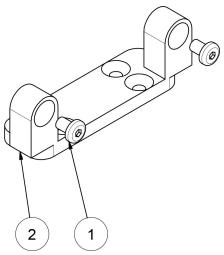
Pos	Qty	Part No.	Title	Description
1	4	821-1308	SCREW	KTS 8.8 M4x6 svkr
2	2	821-2687	SCREW	MRT 8.8 M5x12 ZiNi BL
3	1	9022-772	BRACKET 19"/4 +6 HR R6031	

3.11 Bracket Top 1U+2U Kit R6031, 9022-9009



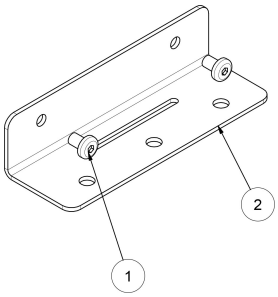
Pos	Qty	Part No.	Title	Description
1	2	821-1308	SCREW	KTS 8.8 M4x6 svkr
2	1	9022-757	BRACKET TOP SIDE COATED R6031	

3.12 Bracket Top 1Ux3 Kit R6031, 9022-9010



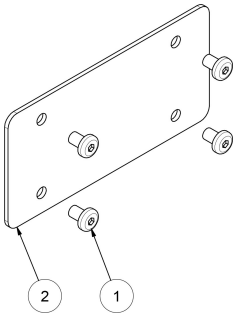
Pos	Qty	Part No.	Title	Description
1	2	821-1308	SCREW	KTS 8.8 M4x6 svkr
2	1	9022-0762	BRACKET TOP SINGLE MOUNT R6031	

3.13 Bracket Bottom Kit R6031, 9022-9011



Pos	Qty	Part No.	Title	Description
1	2	821-1308	SCREW	KTS 8.8 M4x6 svkr
2	1	9022-082	BRACKET BOTTOM COATED RAL6031	

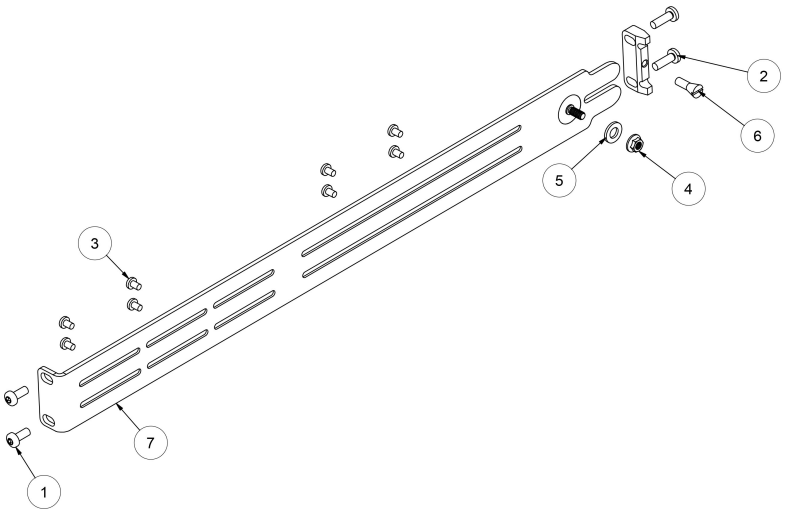
3.14 Bracket Vertical Kit R6031, 9022-9012



Pos	Qty	Part No.	Title	Description
1	4	821-1308	SCREW	KTS 8.8 M4x6 svkr
2	1	9022-042	BRACKET VERTICAL COATED RAL6031	

3.15 Bracket 18.9" GND GS Kit R6031, 9022-9014

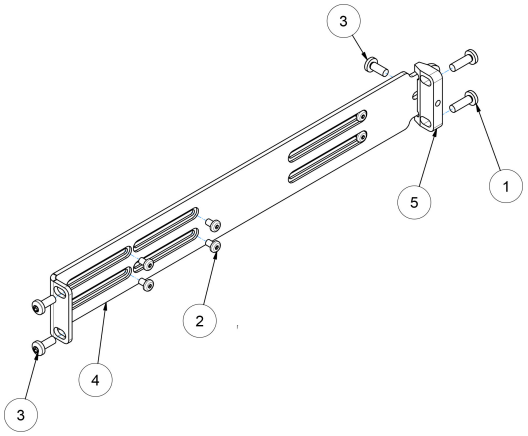
Mounting depth front / back rails: 468-491 mm



Pos	Qty	Part No.	Title	Description
1	2	821-1152	SCREW	MRT 8.8 M5x12 ZiNi BL TU
2	2	821-1261	SCREW	MRT 8.8 M5x16 ZiNi BL TU
3	8	821-1308	SCREW	KTS 8.8 M4x6 svkr
4	1	821-2792	NUT FLANGE	M6MF A2-70 M5
5	1	821-2822	WASHER	BRB - 7.4x14x1.6 A4
6	1	9022-758	BRACKET HOLDER REAR ASSEMBLY	
7	1	9022-0779	BRACKET SIDE 18.9inch GND COATED R6031	

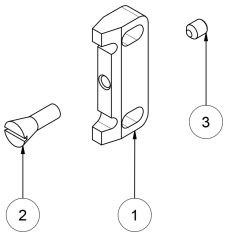
3.16 Bracket 13" Kit R6031, 9022-9017

Mounting depth front / back rails: 325-335 mm



Pos	Qty	Part No.	Title	Description
1	2	821-1261	SCREW	MRT 8.8 M5x16 ZiNi BL TU
2	8	821-1308	SCREW	KTS 8.8 M4x6 svkr
3	3	821-2687	SCREW	MRT 8.8 M5x12 ZiNi BL
4	1	9022-742	BRACKET SIDE 18.9" COATED R6031	
5	1	9022-754	BRACKET HOLDER REAR COATED R6031	

3.17 Bracket Holder Rear, 9022-758



Pos	Qty	Part No.	Title	Description
1	1	9022-754	BRACKET HOLDER REAR COATED R6031	
2	1	9022-755	BRACKET SCREW	
3	1	821-3029	Stoppskruv A2 M5x6 DIN55	

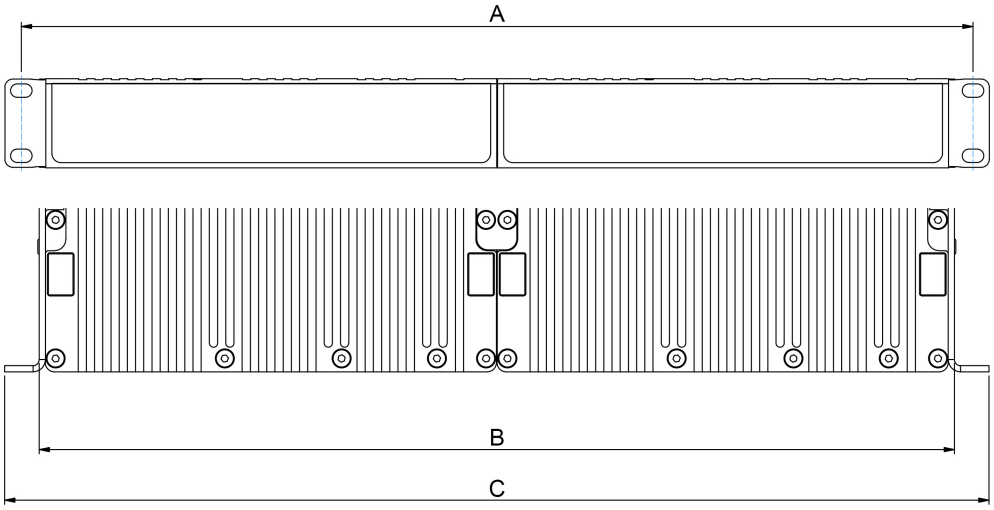
4 Maximum Assembly Dimensions for 19" Racks

Two 19"/2 Units

A = 464.9 mm ± 0.8 mm (18.3 in ± 0.03 in)

B = 448.1 mm (17.6 in)

C = 482.5 mm (19 in)

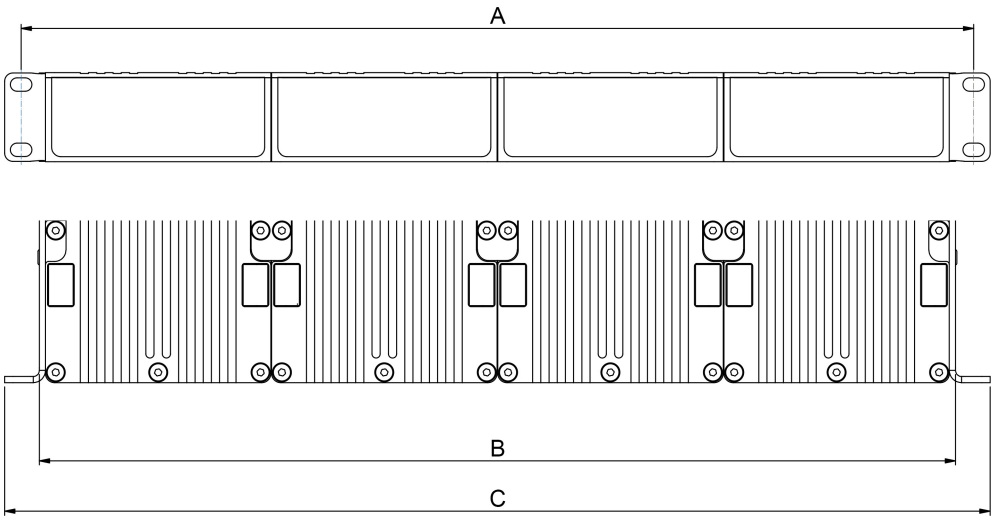


Four 19"/4 Units

A = 463.7 mm ± 1.4 mm (18.3 in ± 0.06 in)

B = 449.5 mm (17.7 in)

C = 483.8 mm (19.1 in)

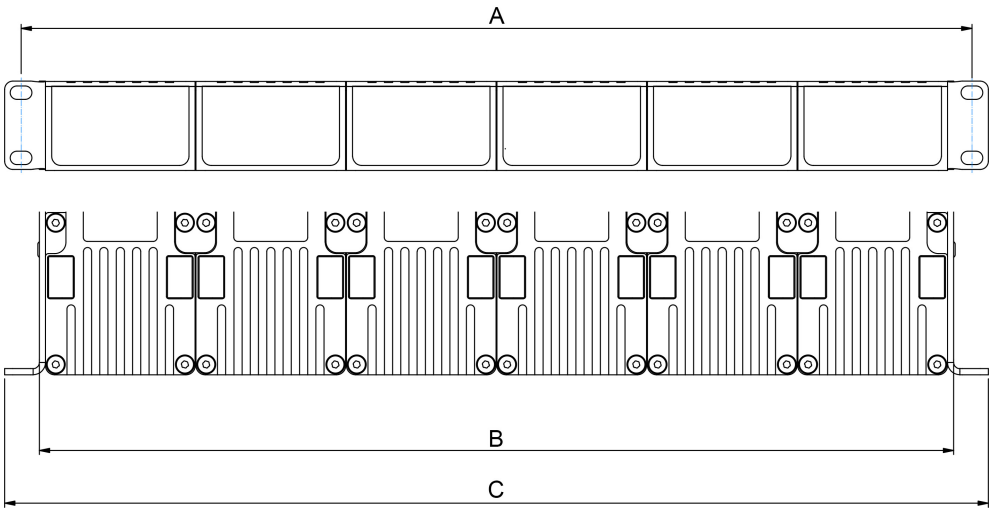


Six 19"/6 Units

A = 464.5 mm ± 1.9 mm (18.3 in ± 0.07 in)

B = 448.8 mm (17.7 in)

C = 483.1 mm (19 in)

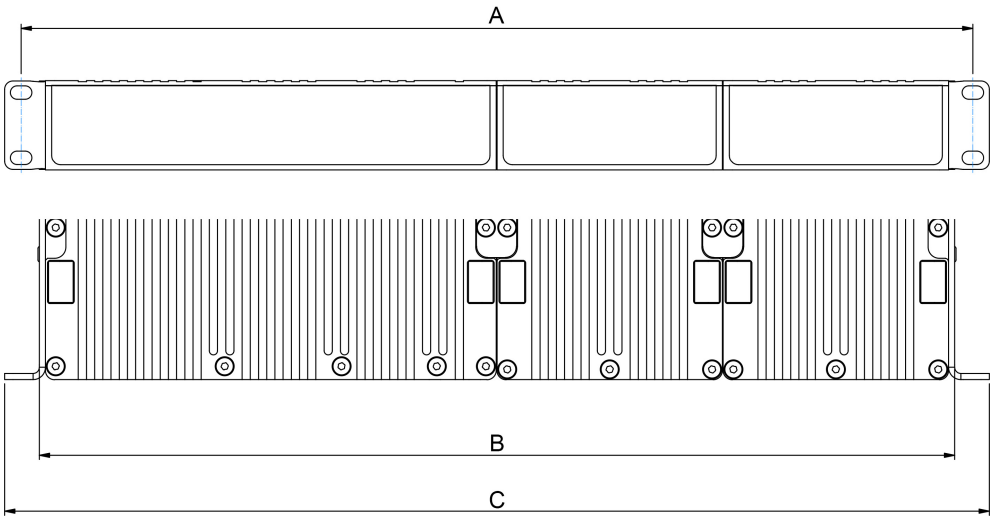


One 19"/2 Unit and two 19"/4 Units

A = 465.3 mm ± 1.1 mm (18.3 in ± 0.043 in)

B = 448.9 mm (17.7 in)

C = 483.2 mm (19 in)

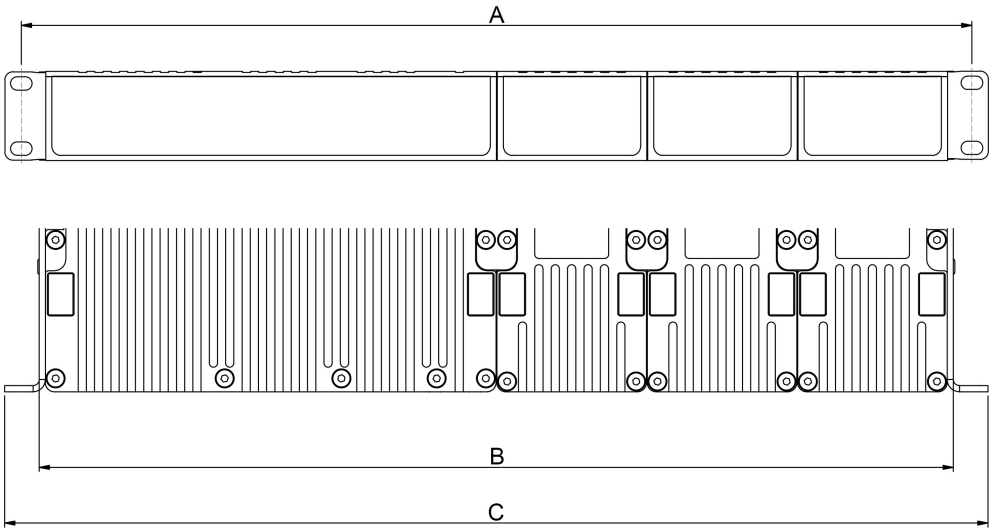


One 19"/2 Unit and three 19"/6 Units

A = 464.7 mm ± 1.4 mm (18.3 in ± 0.06 in)

B = 448.5 mm (17.7 in)

C = 482.8 mm (19 in)

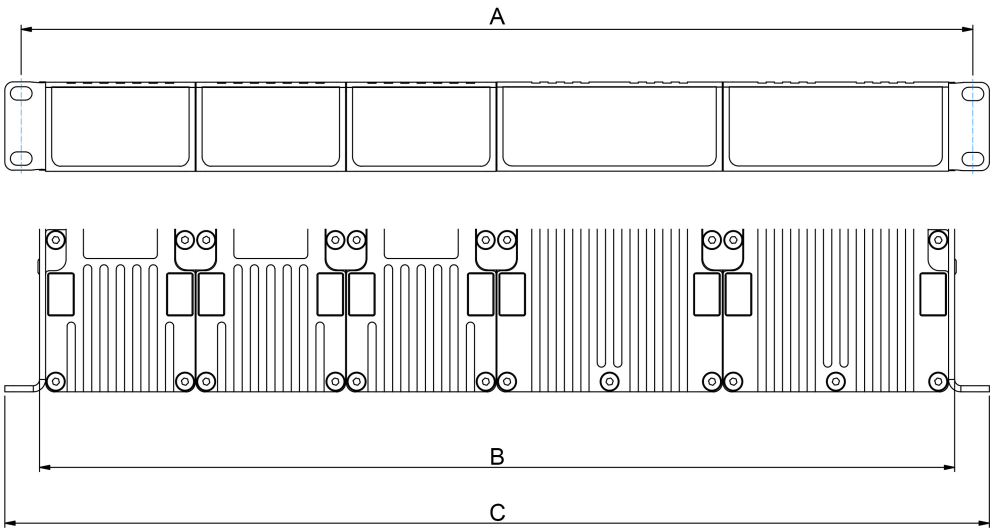


Two 19"/4 Units and three 19"/6 Units

A = 465.1 mm ± 1.6 mm (18.3 in ± 0.06 in)

B = 449.2 mm (17.7 in)

C = 483.5 mm (19 in)



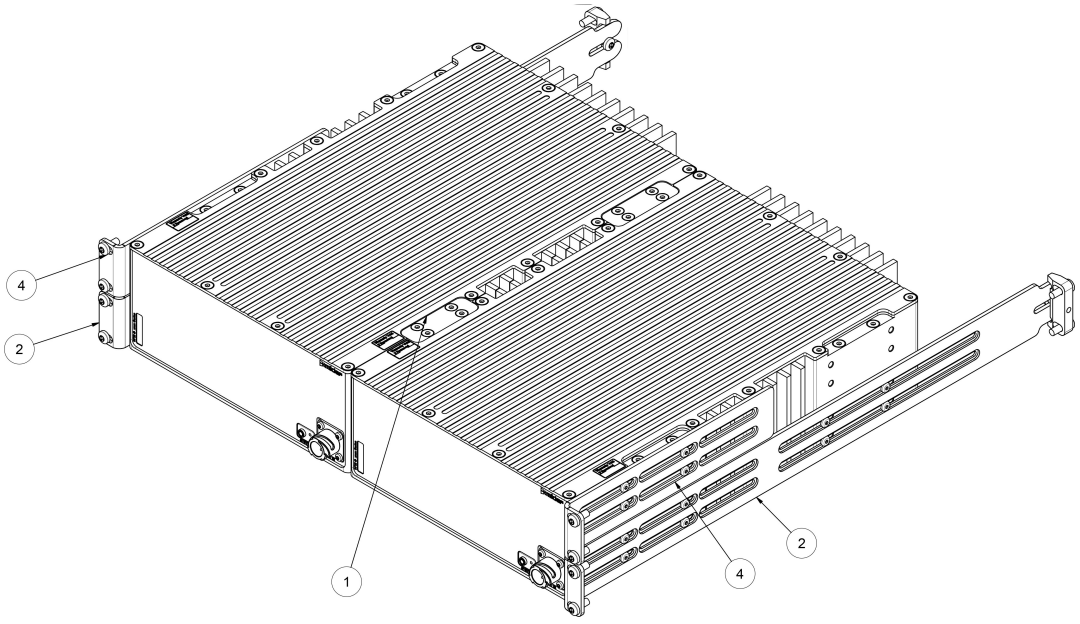
5 Assembling Cases

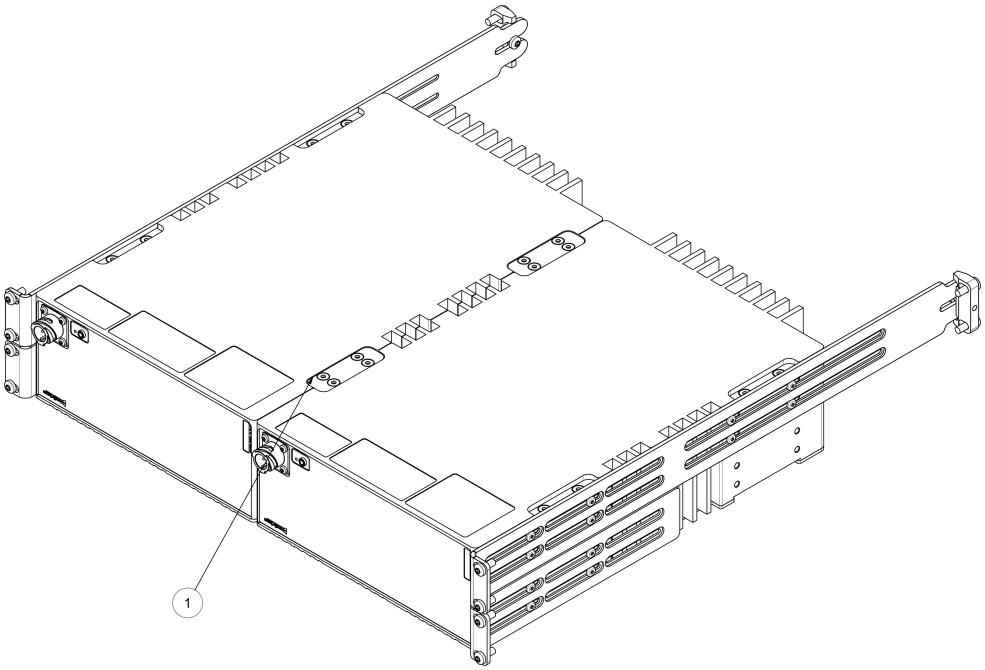
5.1 Two 2U Units in a 19" Rack

For two 2U units assembled together in a 19" rack, use the following kits:

POS	QTY	Article number	Bracket
1	2/4*	811-1251	BRACKET TOP COATED RAL6031
2	2	9022-9001	BRACKET 18.9inch KIT R6031
4	2	9022-9003	BRACKET 19inch2 HR KIT R6031

* Depending on the length of the unit.



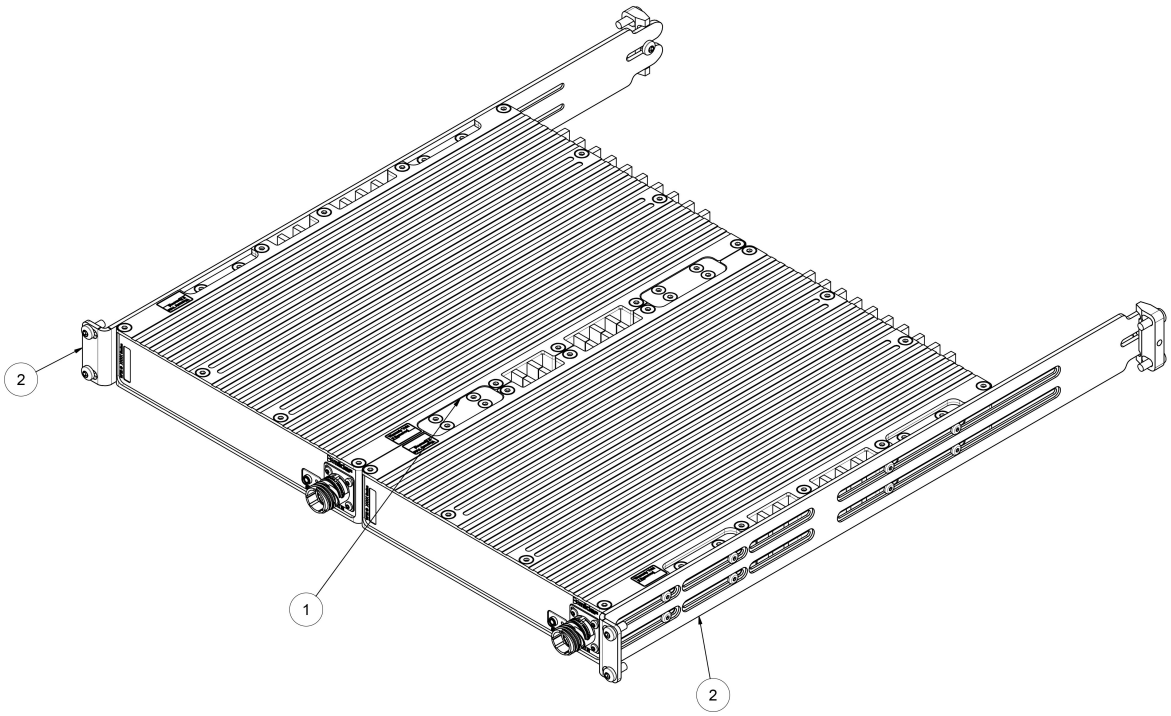


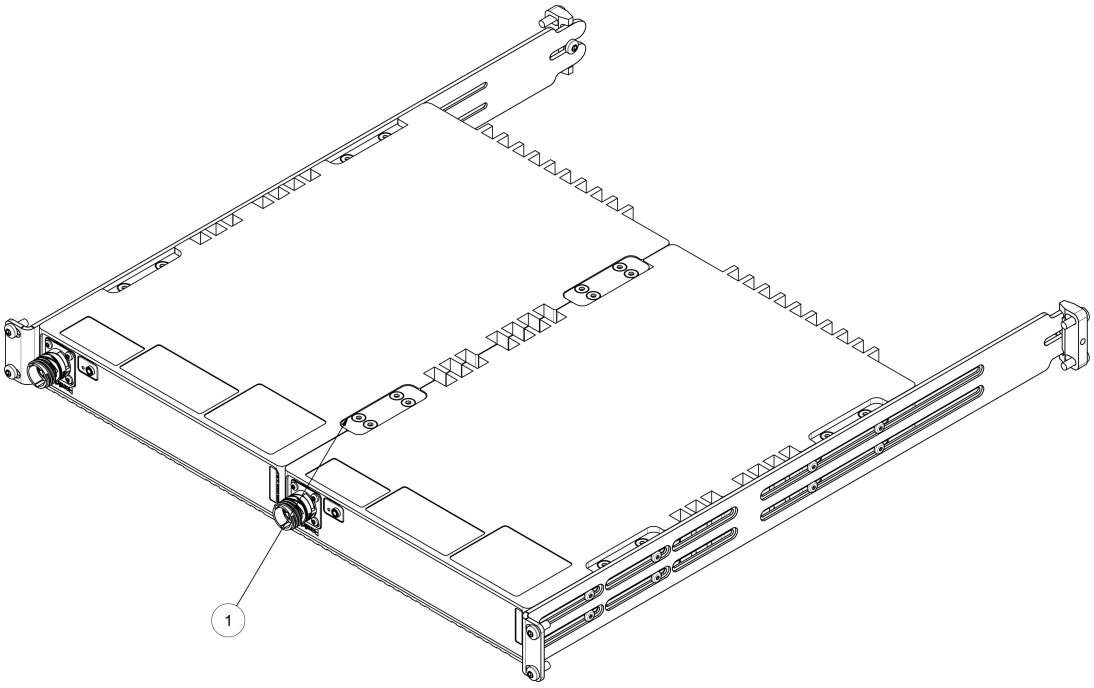
5.2 Two 1U Units in a 19" Rack

For two 1U units assembled together in a 19" rack, use the following kits:

POS	QTY	Article number	Bracket
1	2/4*	811-1251	BRACKET TOP COATED RAL6031
2	2	9022-9001	BRACKET 18.9inch KIT R6031

* Depending on the length of the unit.



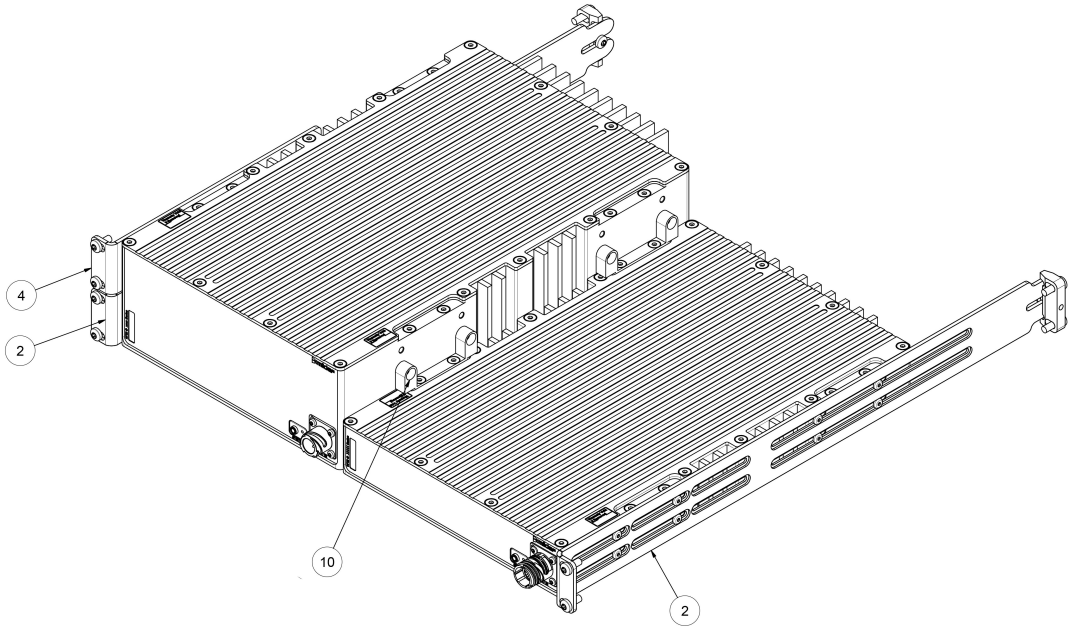


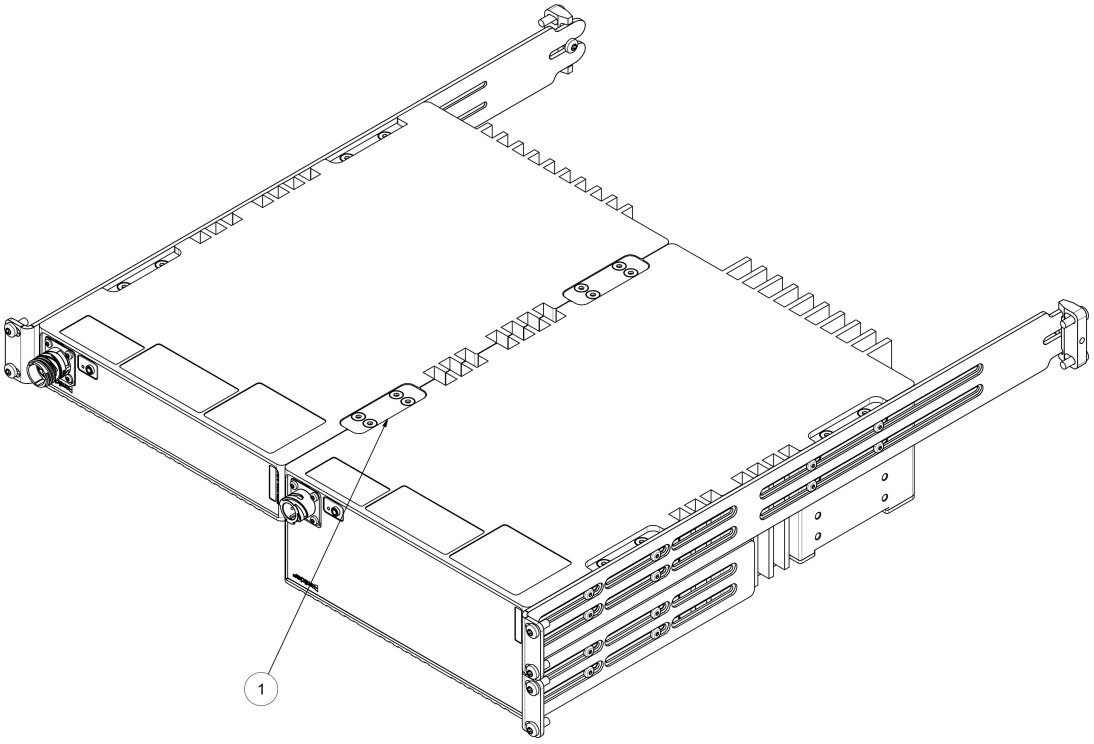
5.3 One 1U and one 2U Unit in a 19" Rack

For one 1U unit and one 2U unit assembled together in a 19" rack, use the following kits:

POS	QTY	Article number	Bracket
1	1/2*	811-1251	BRACKET TOP COATED RAL6031
2	2	9022-9001	BRACKET 18.9inch KIT R6031
4	1	9022-9003	BRACKET 19inch2 HR KIT R6031
10	1/2*	9022-9003	BRACKET TOP 1U+2U KIT R6031

* Depending on the length of the unit.



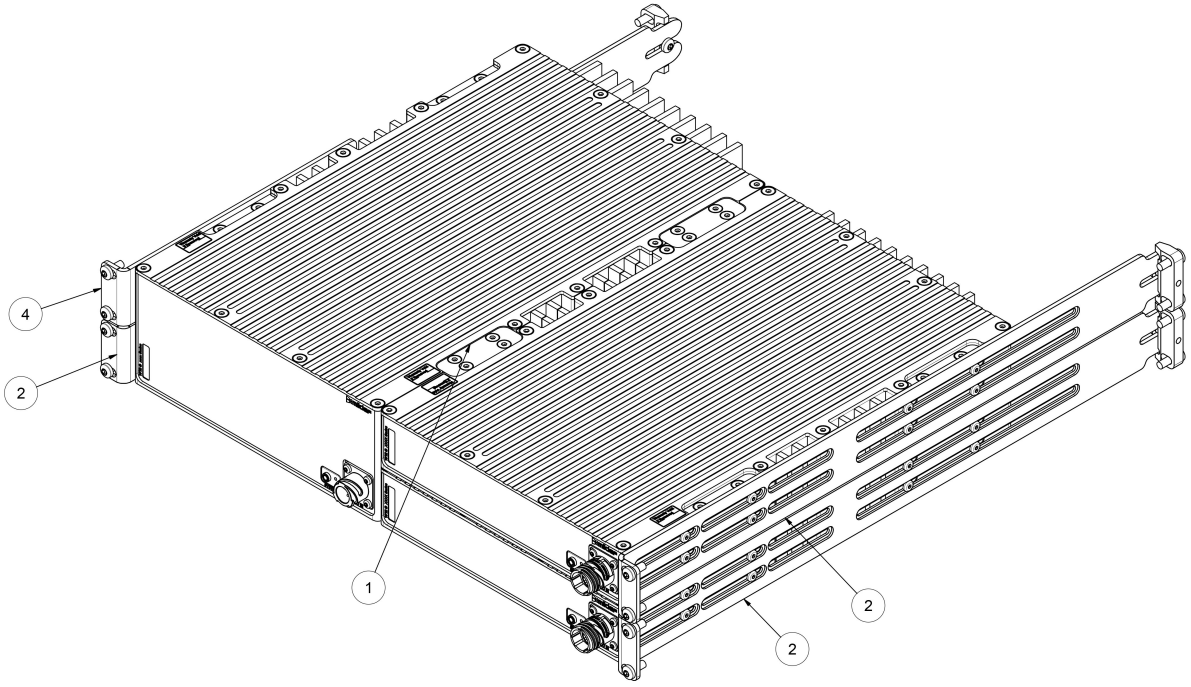

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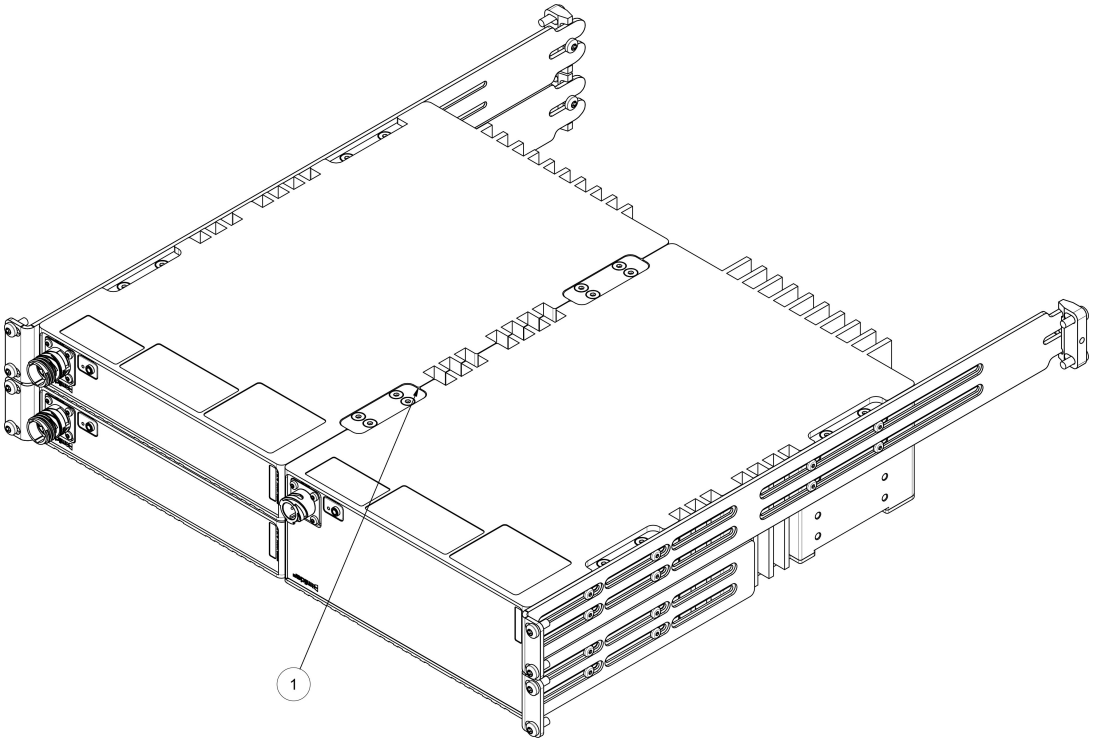
5.4 Two 1U Units and one 2U Unit in a 19" Rack

For two 1U units and one 2U unit assembled together in a 19" rack, use the following kits:

POS	QTY	Article number	Bracket
1	2/4*	811-1251	BRACKET TOP COATED RAL6031
2	3	9022-9001	BRACKET 18.9inch KIT R6031
4	1	9022-9003	BRACKET 19inch2 HR KIT R6031

* Depending on the length of the unit.



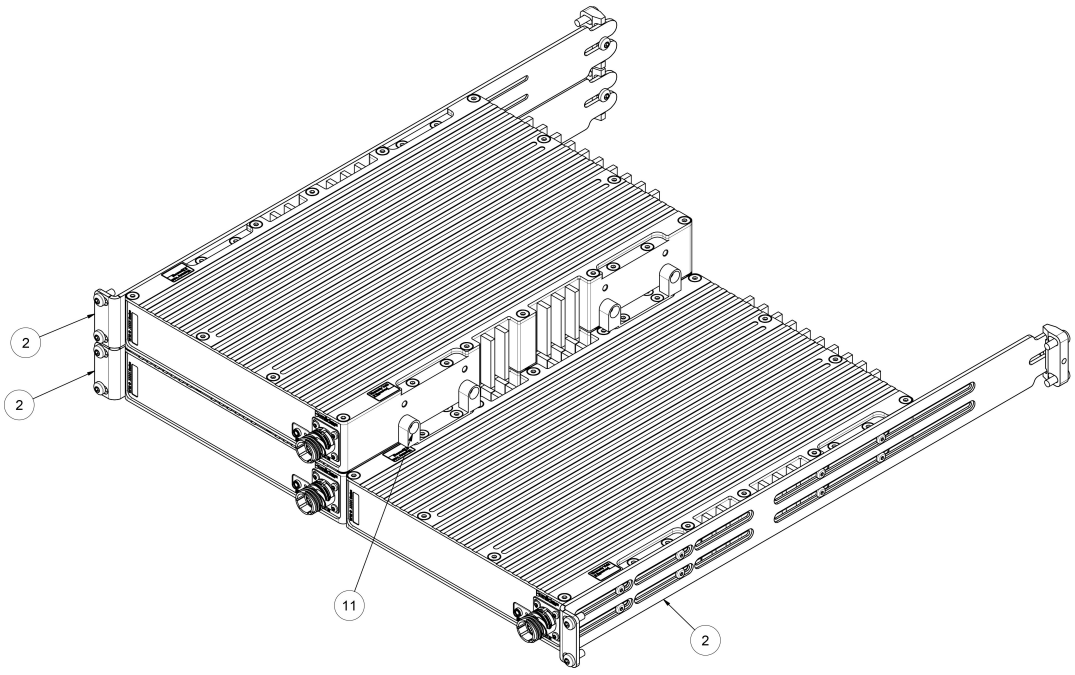

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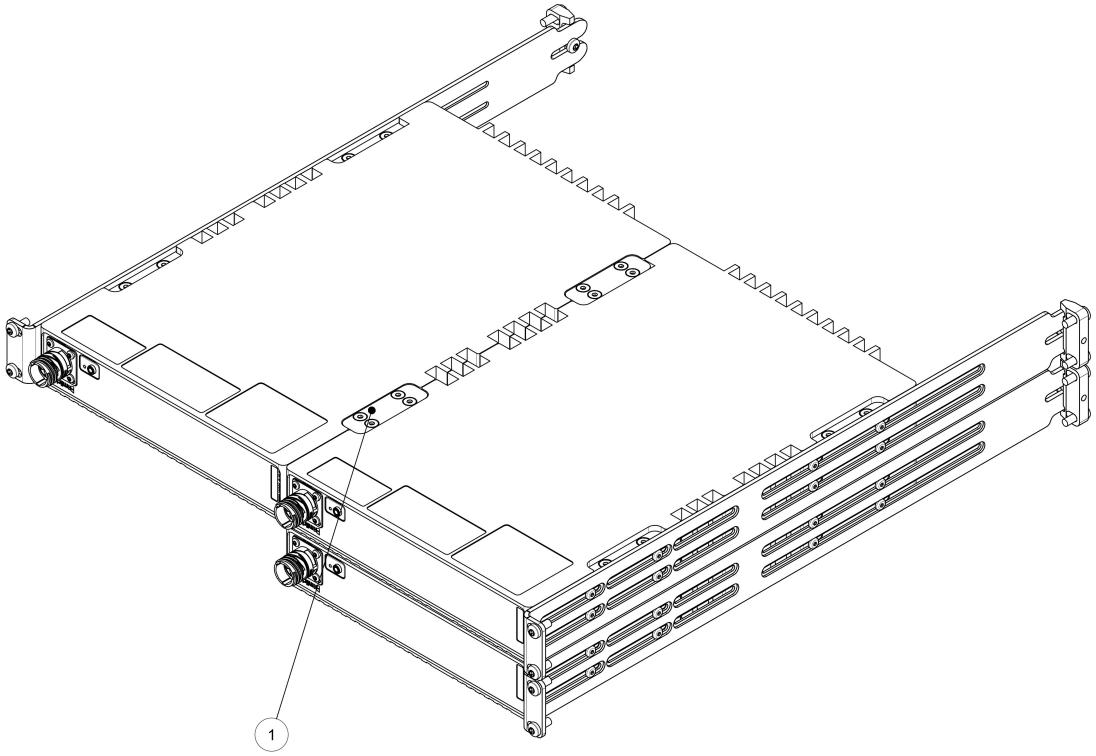
5.5 Three 1U Units in a 19" Rack

For three 1U units assembled together in a 19" rack, use the following kits:

POS	QTY	Article number	Bracket
1	1/2*	811-1251	BRACKET TOP COATED RAL6031
3	3	9022-9002	BRACKET 14inch KIT R6031
11	1/2*	9022-9010	BRACKET TOP 1U x3 KIT R6031

* Depending on the length of the unit.



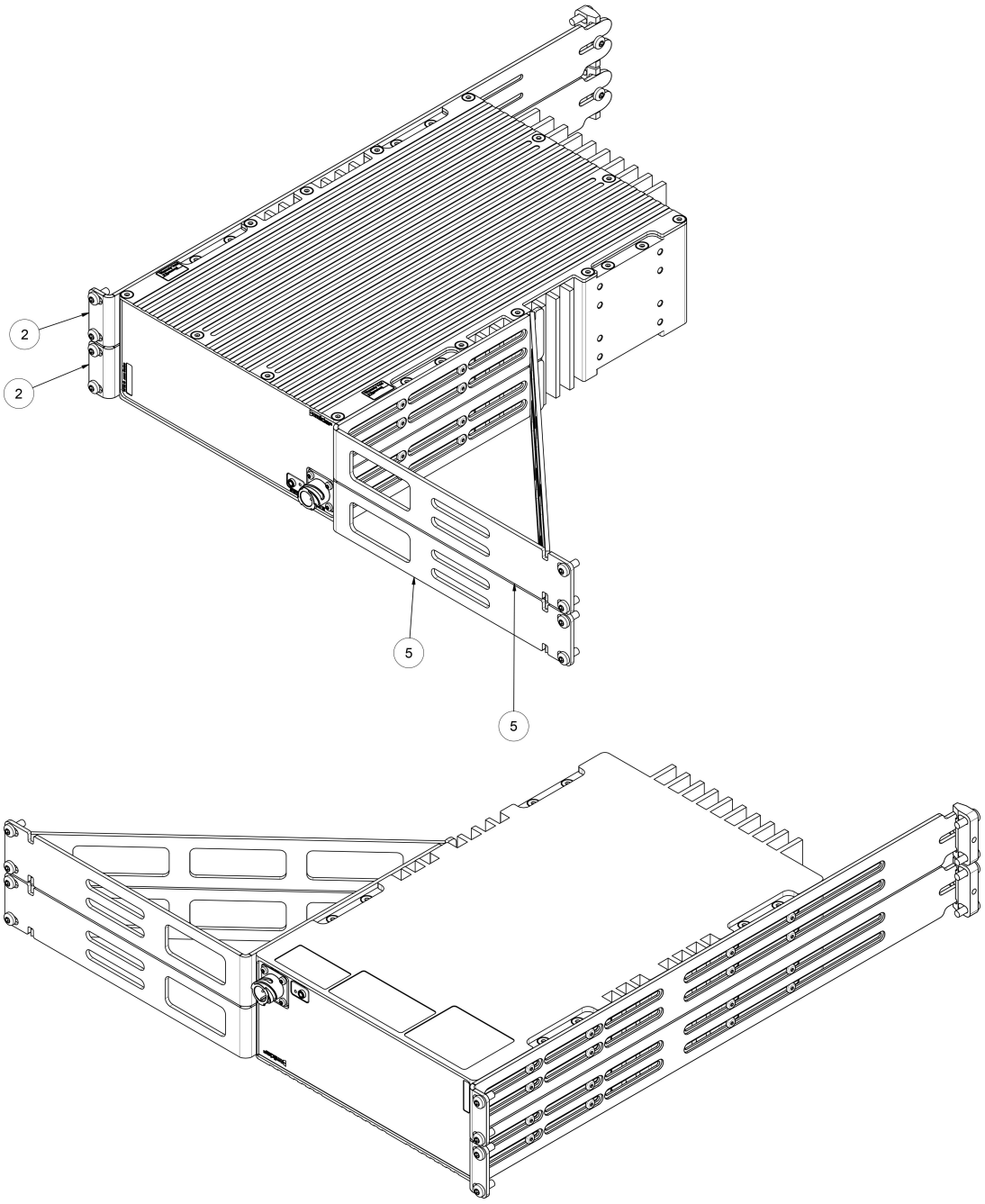

1

5.6 One 2U Unit in a 19" Rack

For one 2U unit assembled in a 19" rack, use the following kits:

POS	QTY	Article number	Bracket
2	2	9022-9001	BRACKET 18.9inch KIT R6031
5	2	9022-9004	BRACKET 19inch2 FR KIT R6031

Note: The unit has to be mounted with support both above and below to support 40G shock. Assemble the unit with support of either rack frame or other 19" units both above and below the unit.

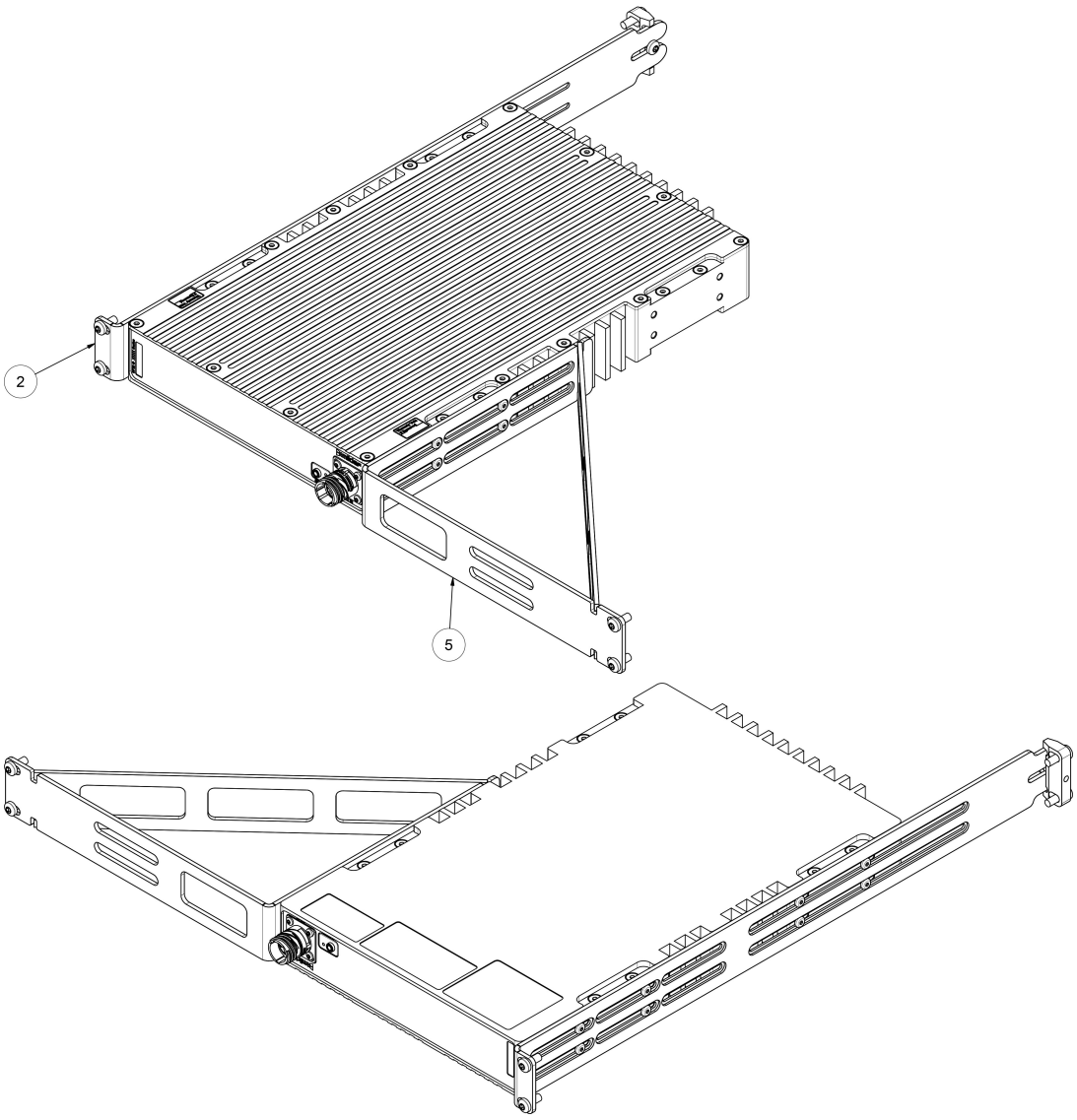


5.7 One 1U Unit in a 19" Rack

For one 1U unit assembled in a 19" rack, use the following kits:

POS	QTY	Article number	Bracket
2	1	9022-9001	BRACKET 18.9inch KIT R6031
5	1	9022-9004	BRACKET 19inch2 FR KIT R6031

Note: The unit has to be mounted with support both above and below to support 40G shock. Assemble the unit with support of either rack frame or other 19" units both above and below the unit.

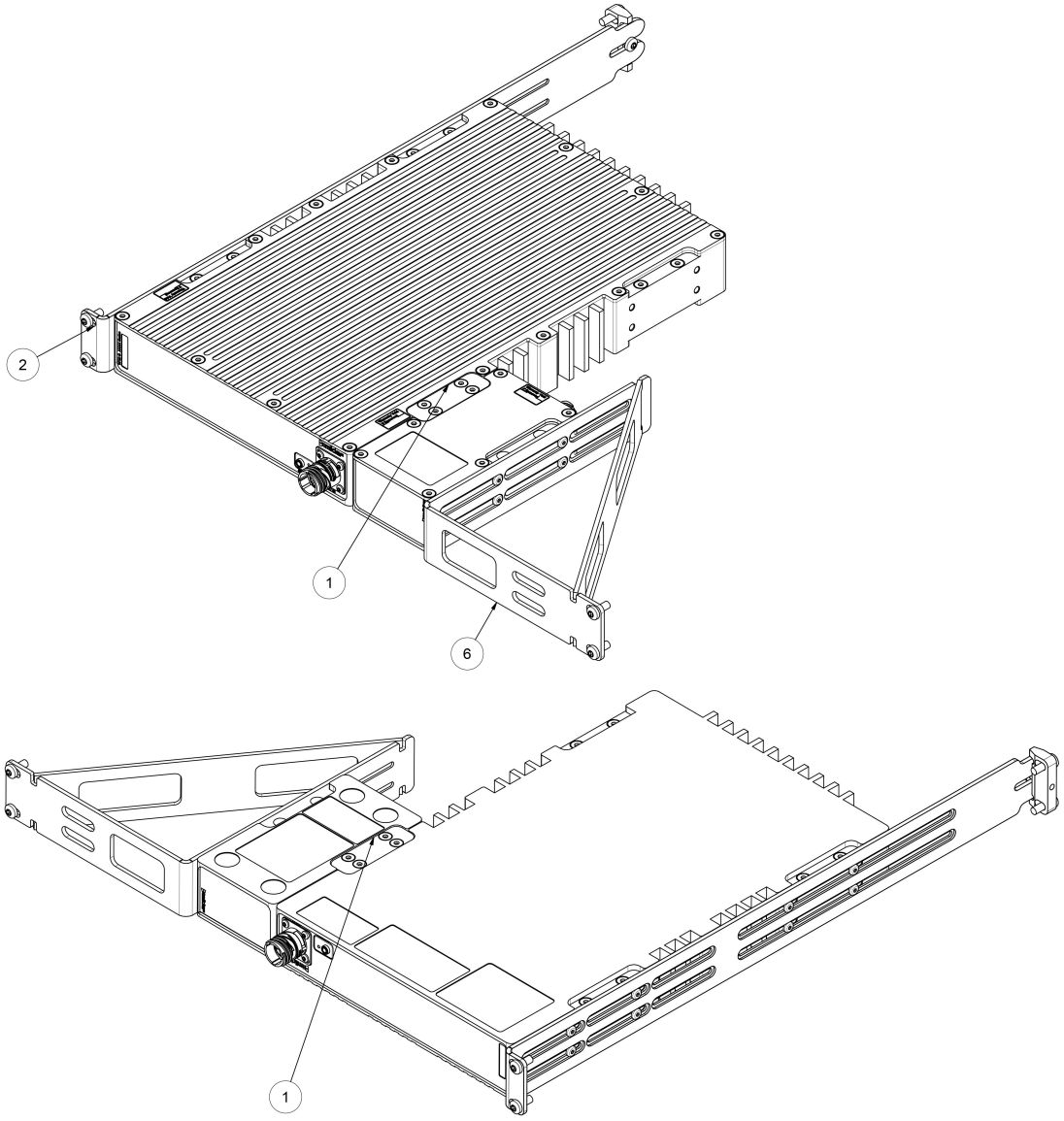


5.8 One 1U Unit and one 19"/6 Unit in a 19" Rack

For one 1U unit and one 19"/6 unit assembled together in a 19" rack, use the following kits:

POS	QTY	Article number	Bracket
1	1	811-1251	BRACKET TOP COATED RAL6031
2	1	9022-9001	BRACKET 18.9inch KIT R6031
6	1	9022-9005	BRACKET 19inch6 HR KIT R6031

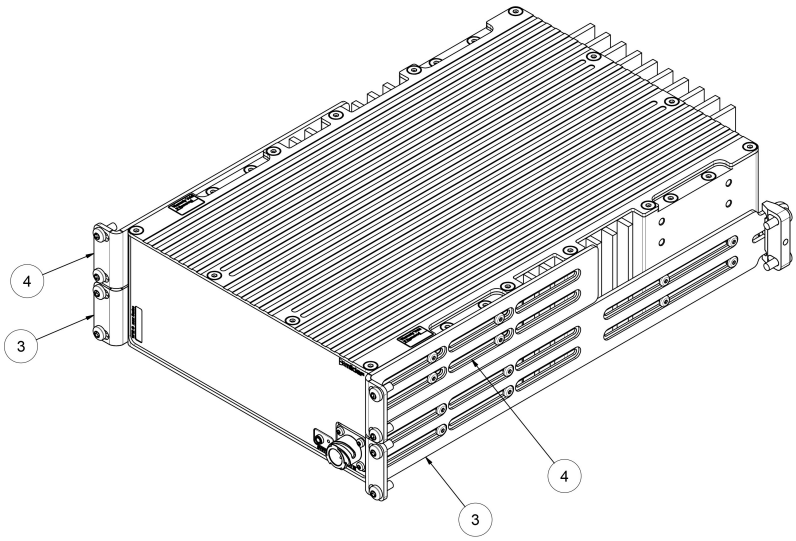
Note: The units have to be mounted with support both above and below to support 40G shock. Assemble the units with support of either rack frame or other 19" units both above and below the units.

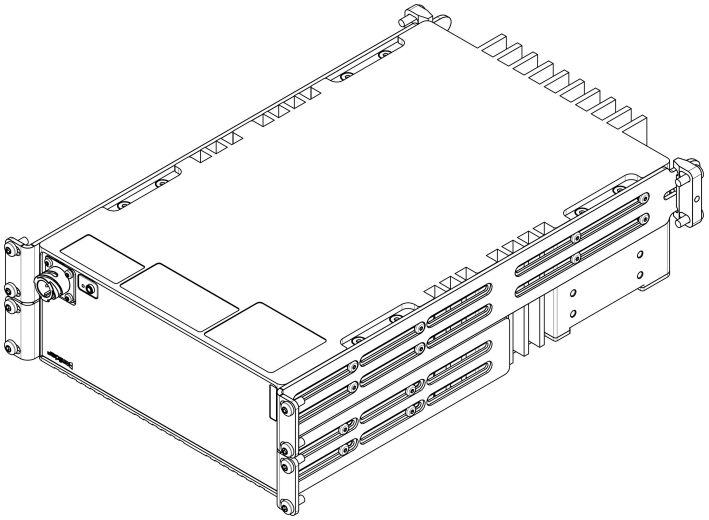


5.9 One 2U Unit in a Half Rack

For one 2U unit assembled in a half rack, use the following kits:

POS	QTY	Article number	Bracket
3	2	9022-9002	BRACKET 14inch KIT R6031
4	2	9022-9003	BRACKET 19inch2 HR KIT R6031

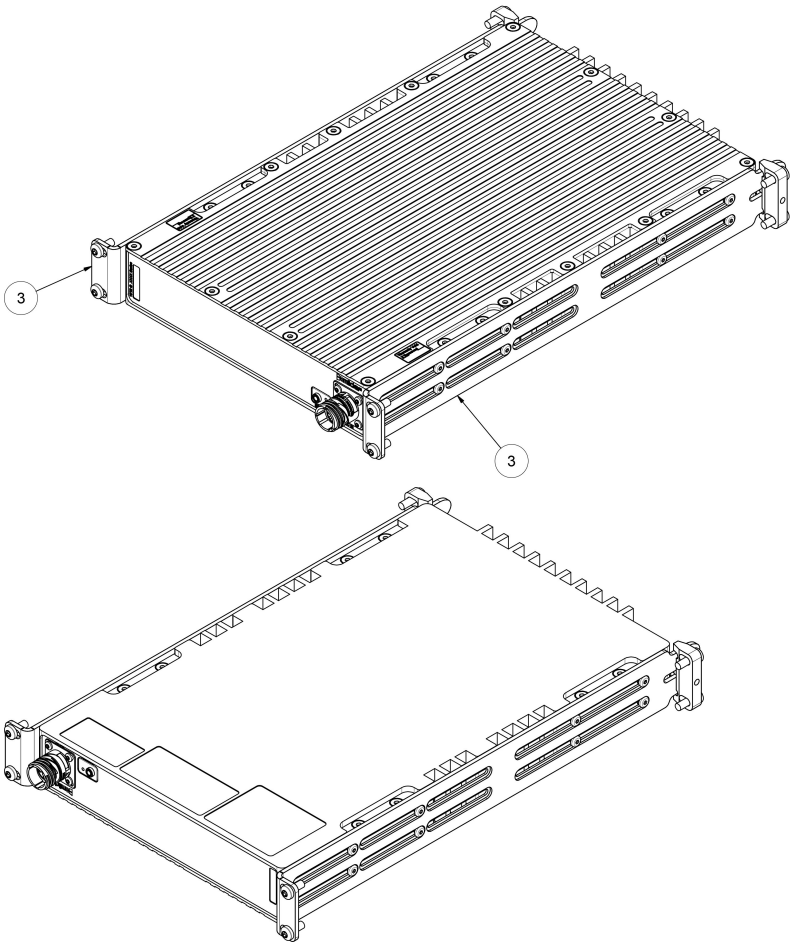




5.10 One 1U Unit in a Half Rack

For one 1U unit assembled in a half rack, use the following kit:

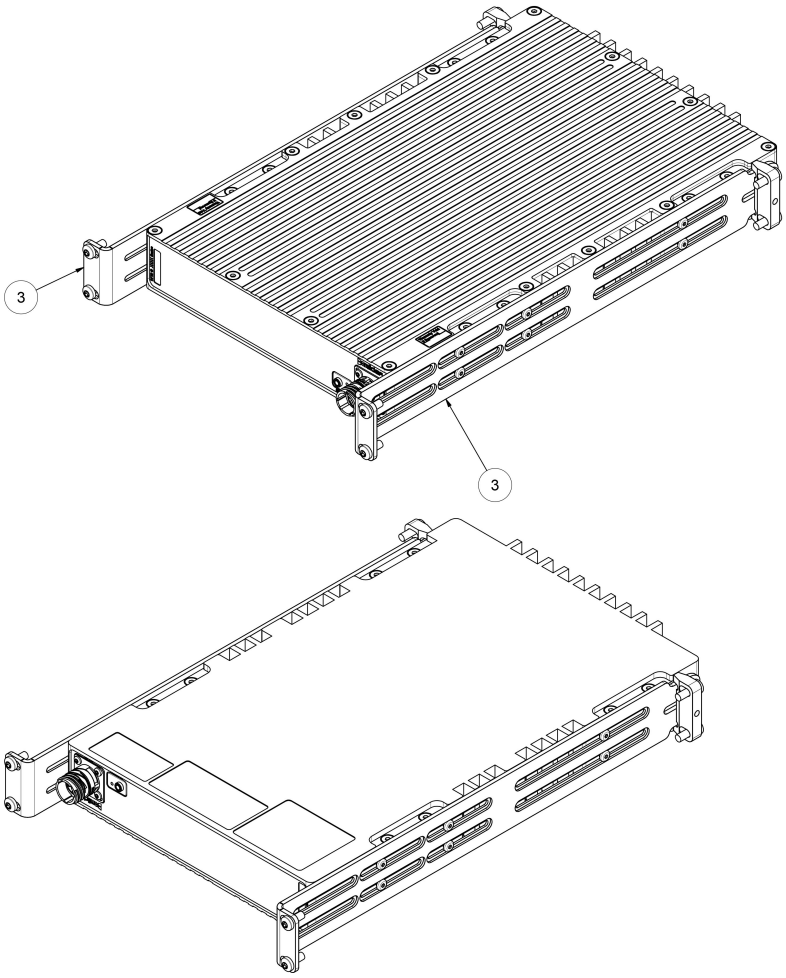
POS	QTY	Article number	Bracket
3	2	9022-9002	BRACKET 14inch KIT R6031



5.11 One 1U Unit in a Half Rack

For one 1U unit assembled in a half rack, with the unit outside the half rack, use the following kit:

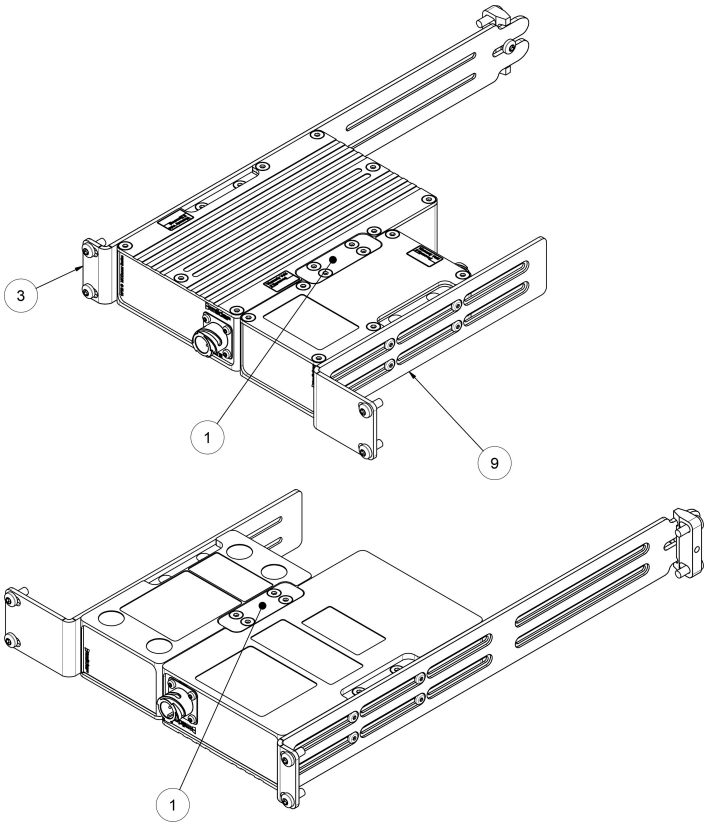
POS	QTY	Article number	Bracket
3	2	9022-9002	BRACKET 14inch KIT R6031



5.12 One 19"/4 Unit and one 19"/6 Unit in a Half Rack

For one 19"/4 unit and one 19"/6 unit assembled together in a half rack, use the following kits:

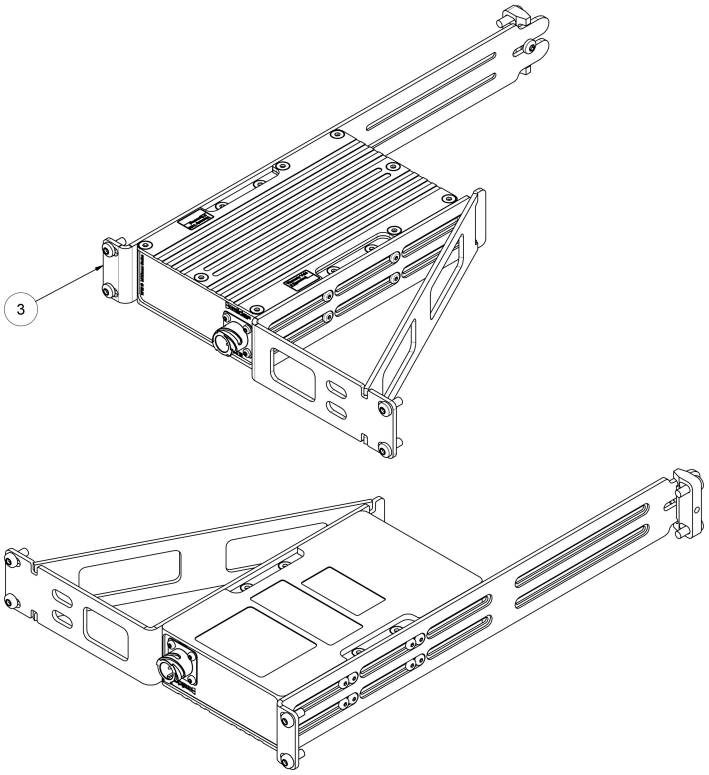
POS	QTY	Article number	Bracket
1	2	811-1251	BRACKET TOP COATED RAL6031
3	1	9022-9002	BRACKET 14inch KIT R6031
9	1	9022-9008	BRACKET 19inch4 +6 HR KIT R6031



5.13 One 19"/4 Unit in a Half Rack

For one 19"/4 unit assembled in a half rack, use the following kits:

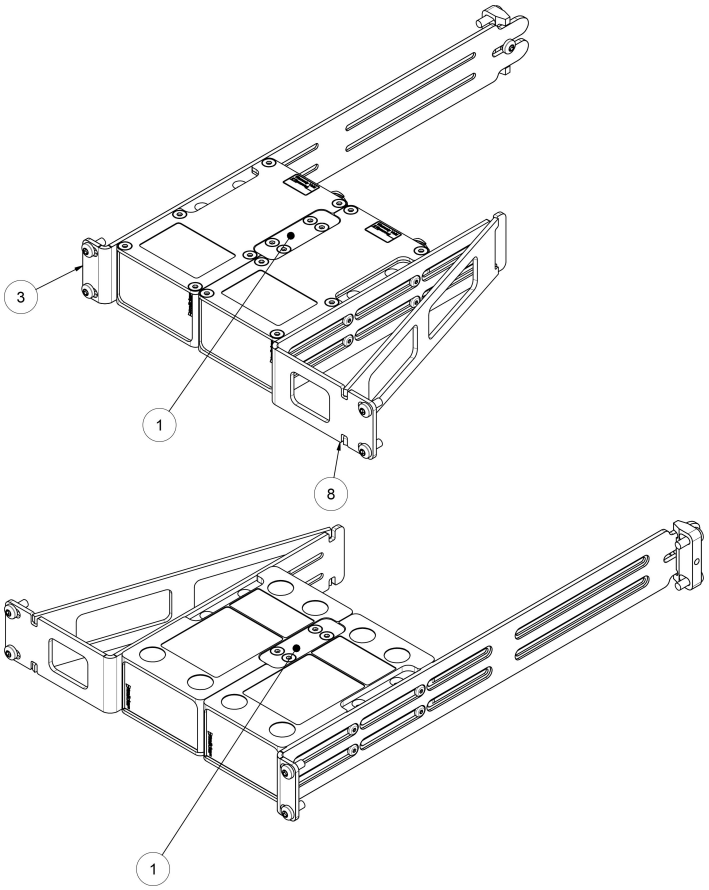
POS	QTY	Article number	Bracket
3	1	9022-9002	BRACKET 14inch KIT R6031
7	1	9022-9006	BRACKET 19inch4 HR KIT R6031



5.14 Two 19"/6 Units in a Half Rack

For two 19"/6 units assembled together in a half rack, use the following kits:

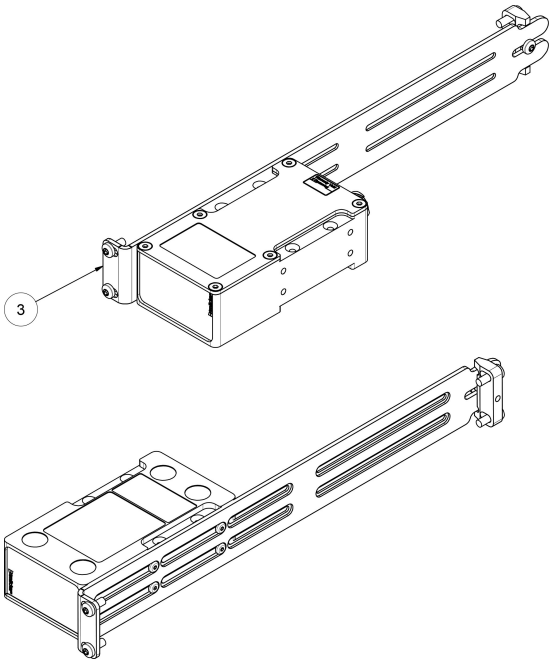
POS	QTY	Article number	Bracket
1	2	811-1251	BRACKET TOP COATED RAL6031
3	1	9022-9002	BRACKET 14inch KIT R6031
8	1	9022-9007	BRACKET 19inch6 x2 HR KIT R6031



5.15 One 19"/6 Unit in a Half Rack or a 19" Rack

For one 19"/6 unit assembled in a half rack or in a 19" rack, use the following kit:

POS	QTY	Article number	Bracket
3	1	9022-9002	BRACKET 14inch KIT R6031

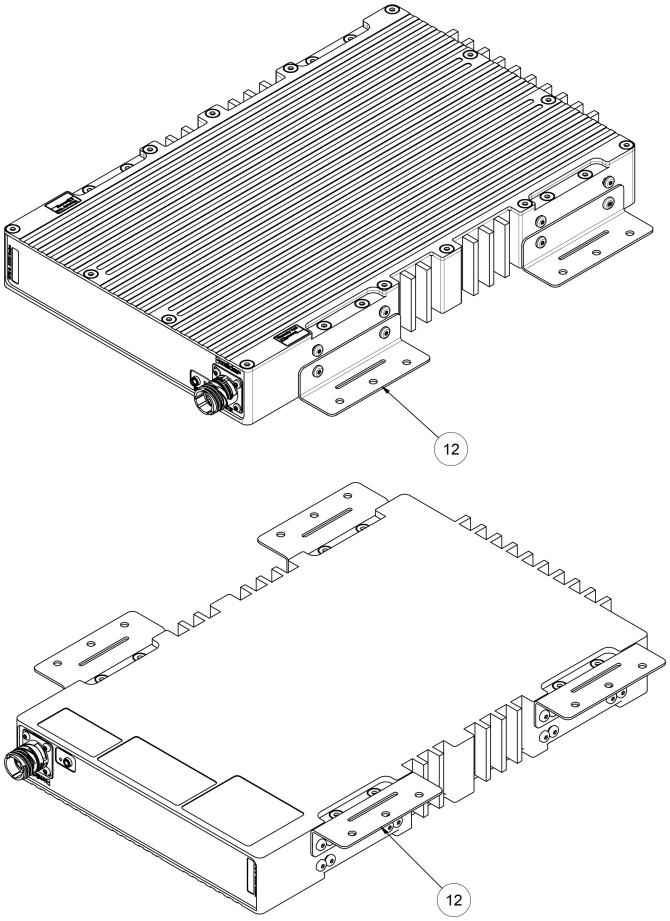


5.16 One 1U Unit in a Table

For one 1U unit assembled in a table, use the following kit:

POS	QTY	Article number	Bracket
12	2/4*	9022-9011	BRACKET BOTTOM KIT R6031

* Depending on the length of the unit.

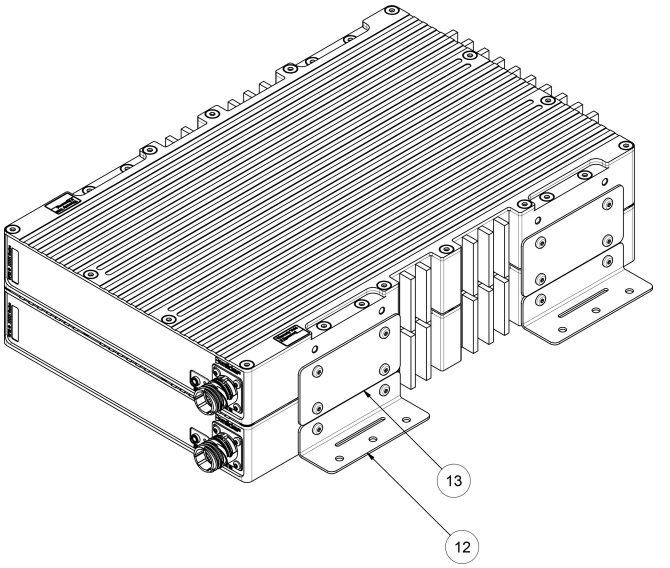


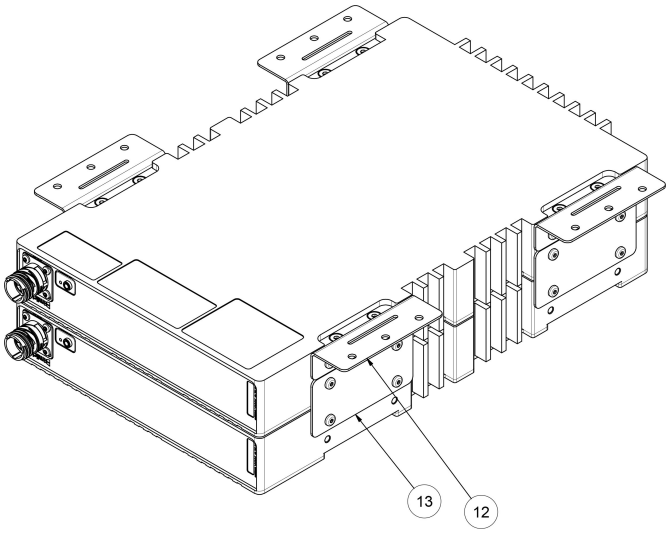
5.17 Two 1U Unit in a Table

For two 1U units assembled in a table, use the following kits:

POS	QTY	Article number	Bracket
12	2/4*	9022-9011	BRACKET BOTTOM KIT R6031
13	2/4*	9022-9012	BRACKET VERTICAL KIT R6031

* Depending on the length of the unit.





6 Racks

6.1 Half Rack

Case, Loadmaster® TSC Half Rack

- 14" deep inner frame (9.51 hole-to-hole)
- Fixed or slide out frame
- 3-10 U height
- M5 nutbars
- 3" nesting lids
- Stainless steel black oxide latches
- Black polymer handles
- Different options for payload is available
- Pressure relief valve
- Color: Desert Tan, Black or Green





6.2 19" Rack

Case Carbon Fiber, 4500 Series

- 18.9” deep inner frame
- 3-14 U height
- M5 nutbars
- Stainless steel black oxide latches
- Different options for payload is available
- Pressure relief valve
- Color: Black

