

MASTERDRIVES to SINAMICS G120x ADAPTOR PLATES

Product Information

A5Exxxxxxxx AA

Edition 07/2017

This document is valid for the following MASTERDRIVES components:

MLFB	Frame size/type	Mounting type
• 6SE70xx-xxAxx	FSA - compact unit	G-Rail
• 6SE70xx-xxBxx	FSB - compact unit	G-Rail
• 6SE70xx-xxCxx	FSC - compact unit	G-Rail
• 6SE70xx-xxDxx	FSD - compact unit	G-Rail
• 6SE70xx-xxPxx	P1 - Compact PLUS unit	screws only
• 6SE70xx-xxPxx	P2 - Compact PLUS unit	screws only
• 6SE70xx-xxPxx	P3 - Compact PLUS unit	screws only
• 6SE70xx-xxPxx	P4 - Compact PLUS unit	screws only
• 6SE70xx-xxPxx	P5 - Compact PLUS unit	screws only

Please see dimension drawings and the given power ratings in the drawings to identify the frame size of the Compact PLUS unit.

This document is valid for the following SINAMICS components:

Frame size/type	Drive family
• FSA	G120
• FSB	G120
• FSC	G120
• FSA	G120P
• FSB	G120P
• FSC	G120P
• FSA	G120C
• FSB	G120C
• FSC	G120C

Please see tables below to identify the frame sizes using the SINAMICS MLFBs.

G120P: only PM230 Power Modules, degree of protection IP20, Standard variant and PM240-2 Power Modules standard variant

MASTERDRIVES dimension drawings for Compact PLUS units:

Converters

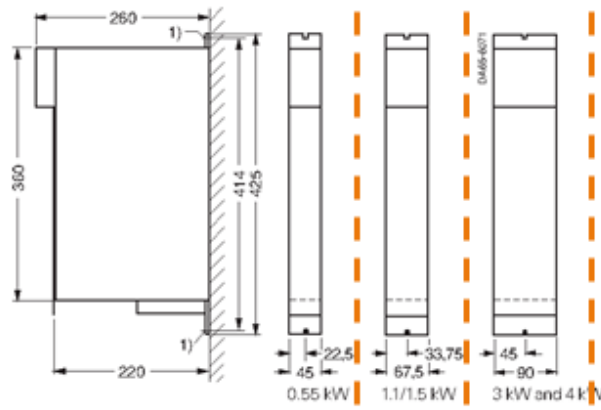


Fig. 1

P1 P2 P3

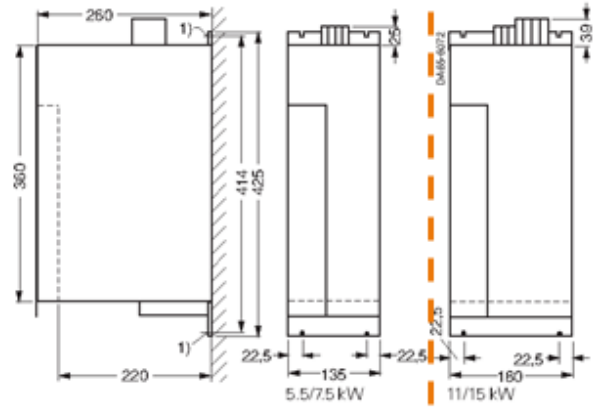


Fig. 2

P4 P5

Inverters

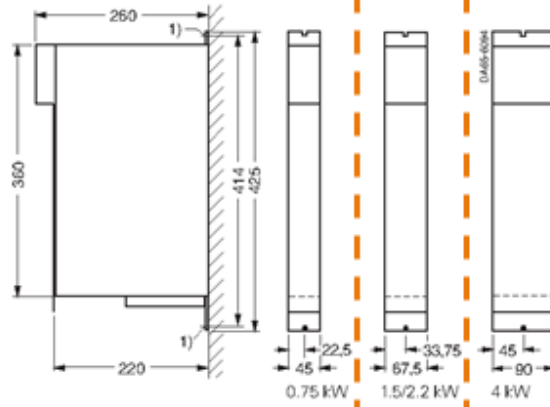


Fig. 3

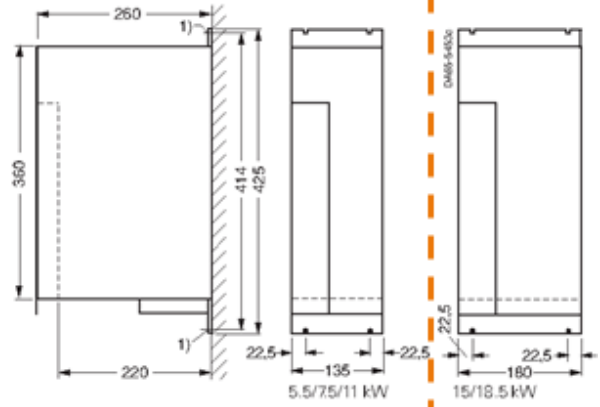


Fig. 4

Rectifiers units

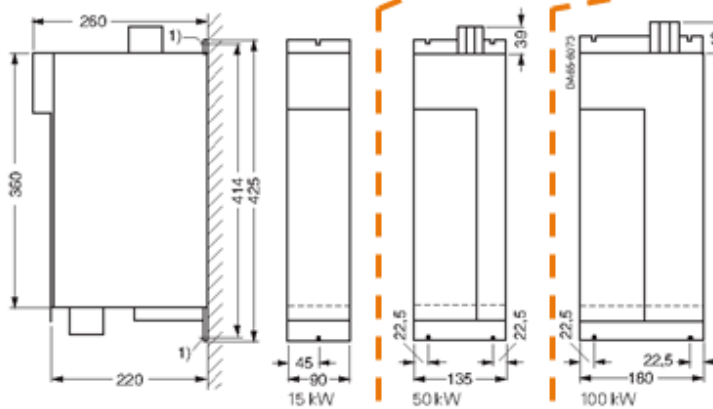


Fig. 5

P3 P4 P5

Power Modules used with SINAMICS G120 and SINAMICS G120P:

PM230 Power Modules degree of protection IP20 Standard variant

Rated power ¹⁾		Rated output current <i>I_{rated}</i> ²⁾ A	Power based on the base-load current ³⁾		Base-load current <i>I_H</i> ³⁾ A	Frame size	PM230 Power Module degree of protection IP20 Standard variant without integrated line filter Article No.	PM230 Power Module degree of protection IP20 Standard variant with integrated line filter class A Article No.
400 V kW	460 V hp		400 V kW	460 V hp				
380 ... 480 V 3 AC								
0.37	0.5	1.3	0.25	0.33	0.9	FSA	6SL3210-1NE11-3UG1	6SL3210-1NE11-3AG1
0.55	0.5	1.7	0.37	0.33	1.3	FSA	6SL3210-1NE11-7UG1	6SL3210-1NE11-7AG1
0.75	0.75	2.2	0.55	0.5	1.7	FSA	6SL3210-1NE12-2UG1	6SL3210-1NE12-2AG1
1.1	1	3.1	0.75	0.75	2.2	FSA	6SL3210-1NE13-1UG1	6SL3210-1NE13-1AG1
1.5	2	4.1	1.1	1	3.1	FSA	6SL3210-1NE14-1UG1	6SL3210-1NE14-1AG1
2.2	3	5.9	1.5	1.5	4.1	FSA	6SL3210-1NE15-8UG1	6SL3210-1NE15-8AG1
3	3	7.7	2.2	3	5.9	FSA	6SL3210-1NE17-7UG1	6SL3210-1NE17-7AG1
4	5	10.2	3	3	7.7	FSB	6SL3210-1NE21-0UG1	6SL3210-1NE21-0AG1
5.5	7.5	13.2	4	5	10.2	FSB	6SL3210-1NE21-3UG1	6SL3210-1NE21-3AG1
7.5	10	18	5.5	5	13.2	FSB	6SL3210-1NE21-8UG1	6SL3210-1NE21-8AG1
11	15	26	7.5	10	18	FSC	6SL3210-1NE22-6UG1	6SL3210-1NE22-6AG1
15	15	32	11	15	26	FSC	6SL3210-1NE23-2UG1	6SL3210-1NE23-2AG1
18.5	20	38	15	15	32	FSC	6SL3210-1NE23-8UG1	6SL3210-1NE23-8AG1

PM240-2 Power Modules standard variant

Rated power ¹⁾		Rated output current <i>I_{rated}</i> ²⁾ A	Power based on the base-load current ³⁾		Base-load current <i>I_H</i> ³⁾ A	Frame size	PM240-2 Power Module standard variant without integrated line filter Article No.	PM240-2 Power Module standard variant with integrated line filter class A Article No.
kW	hp		kW	hp				
200 ... 240 V 1 AC/3 AC								
0.55	0.75	3.2	0.37	0.5	2.3	FSA	6SL3210-1PB13-0UL0	6SL3210-1PB13-0AL0
0.75	1	4.2	0.55	0.75	3.2	FSA	6SL3210-1PB13-8UL0	6SL3210-1PB13-8AL0
1.1	1.5	6	0.75	1	4.2	FSB	6SL3210-1PB15-5UL0	6SL3210-1PB15-5AL0
1.5	2	7.4	1.1	1.5	6	FSB	6SL3210-1PB17-4UL0	6SL3210-1PB17-4AL0
2.2	3	10.4	1.5	2	7.4	FSB	6SL3210-1PB21-0UL0	6SL3210-1PB21-0AL0
3	4	13.6	2.2	3	10.4	FSC	6SL3210-1PB21-4UL0	6SL3210-1PB21-4AL0
4	5	17.5	3	4	13.6	FSC	6SL3210-1PB21-8UL0	6SL3210-1PB21-8AL0
200 ... 240 V 3 AC								
5.5	7.5	22	4	5	17.5	FSC	6SL3210-1PC22-2UL0	6SL3210-1PC22-2AL0
7.5	10	28	5.5	7.5	22	FSC	6SL3210-1PC22-8UL0	6SL3210-1PC22-8AL0
380 ... 480 V 3 AC ⁴⁾								
0.55	0.75	1.7	0.37	0.5	1.3	FSA	6SL3210-1PE11-8UL1	6SL3210-1PE11-8AL1
0.75	1	2.2	0.55	0.75	1.7	FSA	6SL3210-1PE12-3UL1	6SL3210-1PE12-3AL1
1.1	1.5	3.1	0.75	1	2.2	FSA	6SL3210-1PE13-2UL1	6SL3210-1PE13-2AL1
1.5	2	4.1	1.1	1.5	3.1	FSA	6SL3210-1PE14-3UL1	6SL3210-1PE14-3AL1
2.2	3	5.9	1.5	2	4.1	FSA	6SL3210-1PE16-1UL1	6SL3210-1PE16-1AL1
3	4	7.7	2.2	3	5.9	FSA	6SL3210-1PE18-0UL1	6SL3210-1PE18-0AL1
4	5	10.2	3	4	7.7	FSB	6SL3210-1PE21-1UL0	6SL3210-1PE21-1AL0
5.5	7.5	13.2	4	5	10.2	FSB	6SL3210-1PE21-4UL0	6SL3210-1PE21-4AL0
7.5	10	18	5.5	7.5	13.2	FSB	6SL3210-1PE21-8UL0	6SL3210-1PE21-8AL0
11	15	26	7.5	10	18	FSC	6SL3210-1PE22-7UL0	6SL3210-1PE22-7AL0
15	20	32	11	15	26	FSC	6SL3210-1PE23-3UL0	6SL3210-1PE23-3AL0

Power Modules used with SINAMICS G120C:

Rated power ¹⁾		Base-load current I_L ²⁾	Base-load current I_H ³⁾	Frame size	Version	SINAMICS G120C without line filter	SINAMICS G120C with integrated line filter class A
kW	hp					Article No.	Article No.
380 ... 480 V 3 AC							
3	4	7.3	5.6	FSA	USS, Modbus RTU	6SL3210-1KE17-5UB1	6SL3210-1KE17-5AB1
					PROFIBUS DP	6SL3210-1KE17-5UP1	6SL3210-1KE17-5AP1
					PROFINET, EtherNet/IP	6SL3210-1KE17-5UF1	6SL3210-1KE17-5AF1
4	5	8.8	7.3	FSA	USS, Modbus RTU	6SL3210-1KE18-8UB1	6SL3210-1KE18-8AB1
					PROFIBUS DP	6SL3210-1KE18-8UP1	6SL3210-1KE18-8AP1
					PROFINET, EtherNet/IP	6SL3210-1KE18-8UF1	6SL3210-1KE18-8AF1
5.5	7.5	12.5	8.8	FSB	USS, Modbus RTU	6SL3210-1KE21-3UB1	6SL3210-1KE21-3AB1
					PROFIBUS DP	6SL3210-1KE21-3UP1	6SL3210-1KE21-3AP1
					PROFINET, EtherNet/IP	6SL3210-1KE21-3UF1	6SL3210-1KE21-3AF1
7.5	10	16.5	12.5	FSB	USS, Modbus RTU	6SL3210-1KE21-7UB1	6SL3210-1KE21-7AB1
					PROFIBUS DP	6SL3210-1KE21-7UP1	6SL3210-1KE21-7AP1
					PROFINET, EtherNet/IP	6SL3210-1KE21-7UF1	6SL3210-1KE21-7AF1
11	15	25	16.5	FSC	USS, Modbus RTU	6SL3210-1KE22-6UB1	6SL3210-1KE22-6AB1
					PROFIBUS DP	6SL3210-1KE22-6UP1	6SL3210-1KE22-6AP1
					PROFINET, EtherNet/IP	6SL3210-1KE22-6UF1	6SL3210-1KE22-6AF1
15	20	31	25	FSC	USS, Modbus RTU	6SL3210-1KE23-2UB1	6SL3210-1KE23-2AB1
					PROFIBUS DP	6SL3210-1KE23-2UP1	6SL3210-1KE23-2AP1
					PROFINET, EtherNet/IP	6SL3210-1KE23-2UF1	6SL3210-1KE23-2AF1
18.5	25	37	31	FSC	USS, Modbus RTU	6SL3210-1KE23-8UB1	6SL3210-1KE23-8AB1
					PROFIBUS DP	6SL3210-1KE23-8UP1	6SL3210-1KE23-8AP1
					PROFINET, EtherNet/IP	6SL3210-1KE23-8UF1	6SL3210-1KE23-8AF1

Available adaptor plate drawings and selection matrix:

The available adaptor plate drawings are:

1. For G-Rail-mounted MASTERDRIVES compact units:
 - a. A5E41652812A - adaptor plate cpl G120(C) FSA
 - b. A5E42595810A - adaptor plate cpl G120 FSB
 - c. A5E42595815A - adaptor plate cpl G120C FSB
 - d. A5E42595819A - adaptor plate cpl G120 FSC
 - e. A5E42595822A - adaptor plate cpl G120C FSC
 - f. A5E42915284A - adaptor plate cpl G120 FSC
 - g. A5E42945036A - adaptor plate cpl G120C FSC

2. For screw-mounted MASTERDRIVES compact PLUS units:
 - a. A5E41714384A - adaptor plate cpl G120(C) FSA
 - b. A5E42398942A - adaptor plate cpl G120 FSB
 - c. A5E42399004A - adaptor plate cpl G120C FSB
 - d. A5E42931544A - adaptor plate cpl G120 FSC
 - e. A5E42946834A - adaptor plate cpl G120C FSC

	G120/G120P FSA	G120/G120P FSB B	G120/G120P FSC	G120C FSA	G120C FSB	G120C FSC
FSA - compact unit	A5E41652 812A	A5E42595 810A *)		A5E41652 812A	A5E42595 815A *)	
FSB - compact unit	A5E41652 812A	A5E42595 810A		A5E41652 812A	A5E42595 815A	
FSC - compact unit			A5E42595 819A			A5E42595 822A
FSD - compact unit			A5E42915 284A			A5E42945 036A
P1 - Compact PLUS unit	A5E41714 384A *)	A5E42398 942A *)		A5E41714 384A *)	A5E42399 004A *)	
P2 - Compact PLUS unit	A5E41714 384A *)	A5E42398 942A *)		A5E41714 384A *)	A5E42399 004A *)	
P3 - Compact PLUS unit	A5E41714 384A	A5E42398 942A *)		A5E41714 384A	A5E42399 004A *)	
P4 - Compact PLUS unit		A5E42398 942A	A5E42931 544A		A5E42399 004A	A5E42946 834A
P5 - Compact PLUS unit			A5E42931 544A			A5E42946 834A

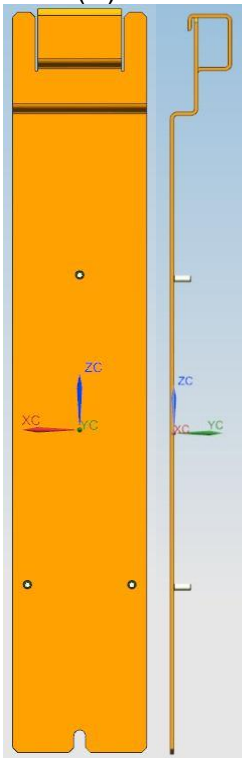
*) **Please be aware, that for the marked combinations the footprint of the new SINAMICS drive is wider than the old MASTERDRIVES. So you can only fit them in, if there is sufficient free space beside the old MASTERDRIVES. The drilling holes would fit, when using the mentioned plates.**

E.g. When replacing a MASTERDRIVES FSC - compact unit with a SINAMICS G120P FSC use drawing A5E42595819A.

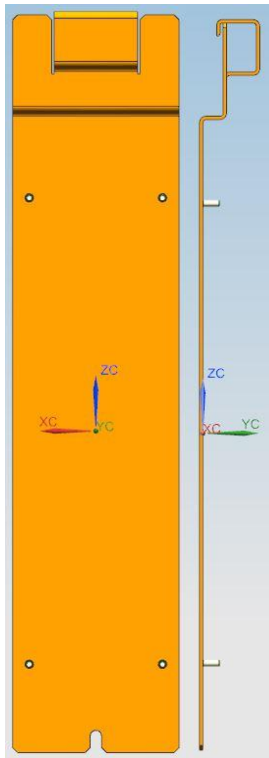
Pictures of complete adaptor plates:

For G-Rail-mounted MASTERDRIVES compact units

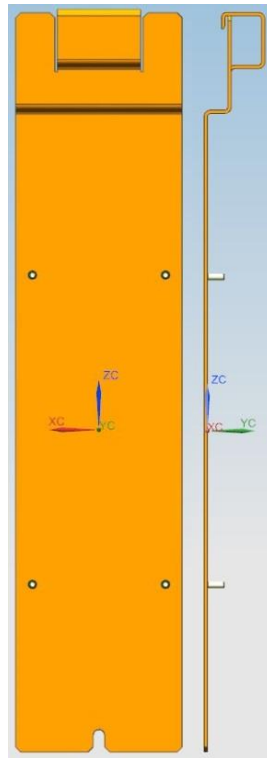
A5E41652812A
G120(C) FSA



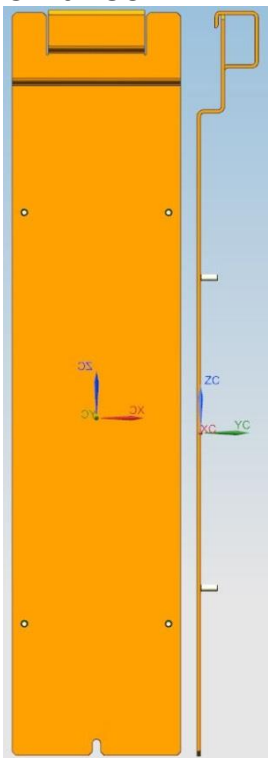
A5E42595810A
G120 FSB



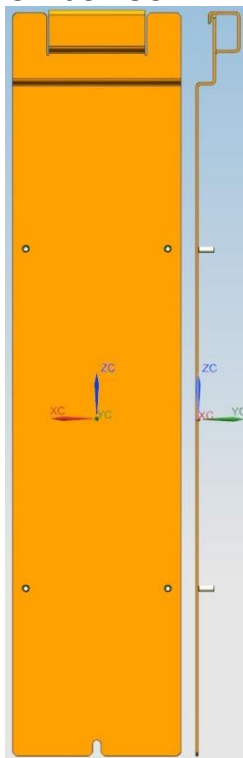
A5E42595815A
G120C FSB



A5E42595819A
G120 FSC

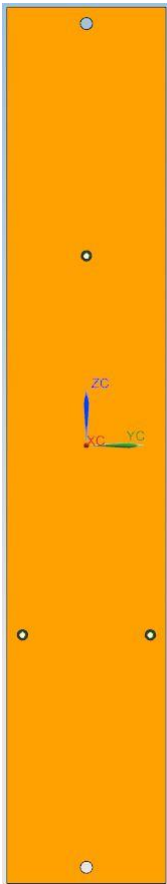


A5E42595822A
G120C FSC

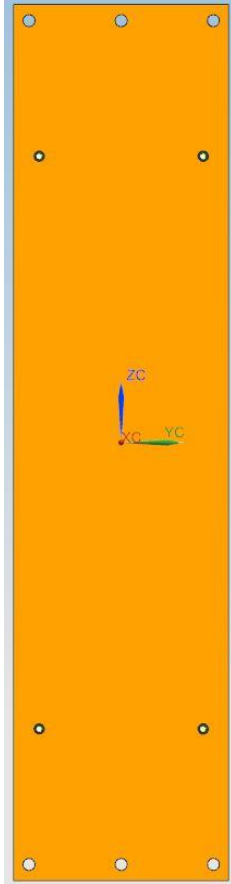


For Screw-mounted MASTERDRIVES compact PLUS units

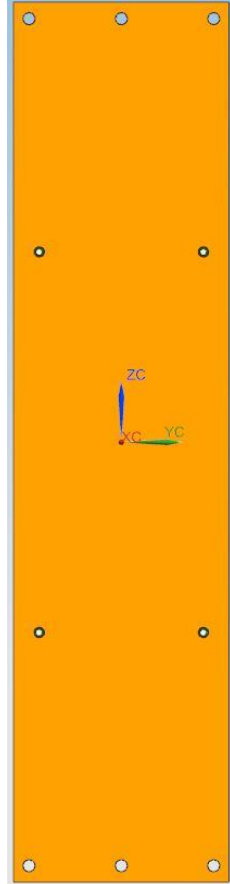
A5E41714384A
G120(C) FSA



A5E42398942A
G120 FSB

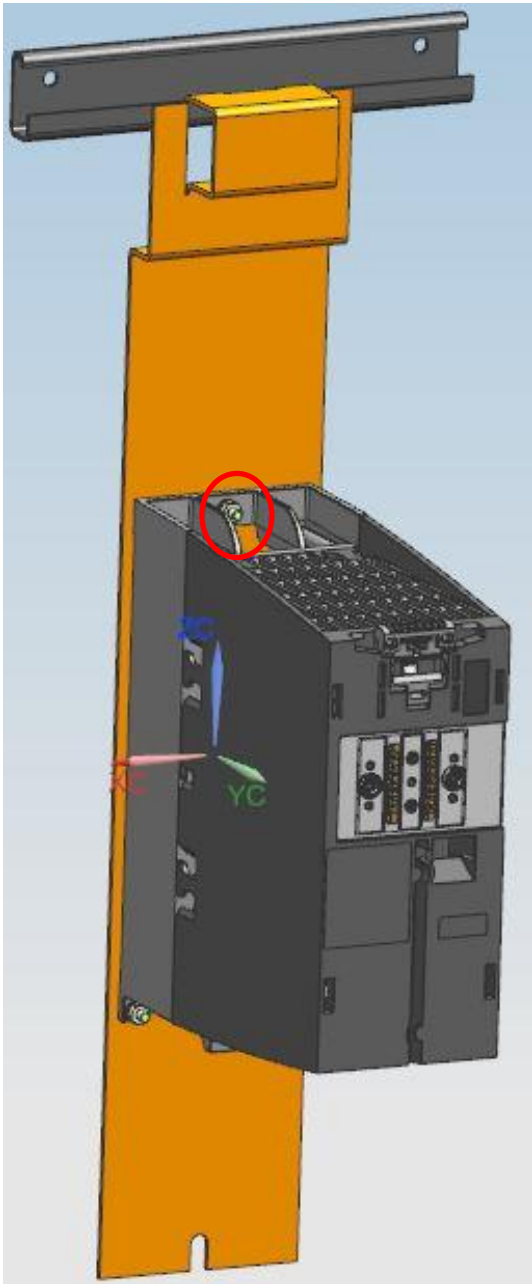


A5E42399004A
G120C FSB



Mounting examples:

G120 FSA G-rail mounted



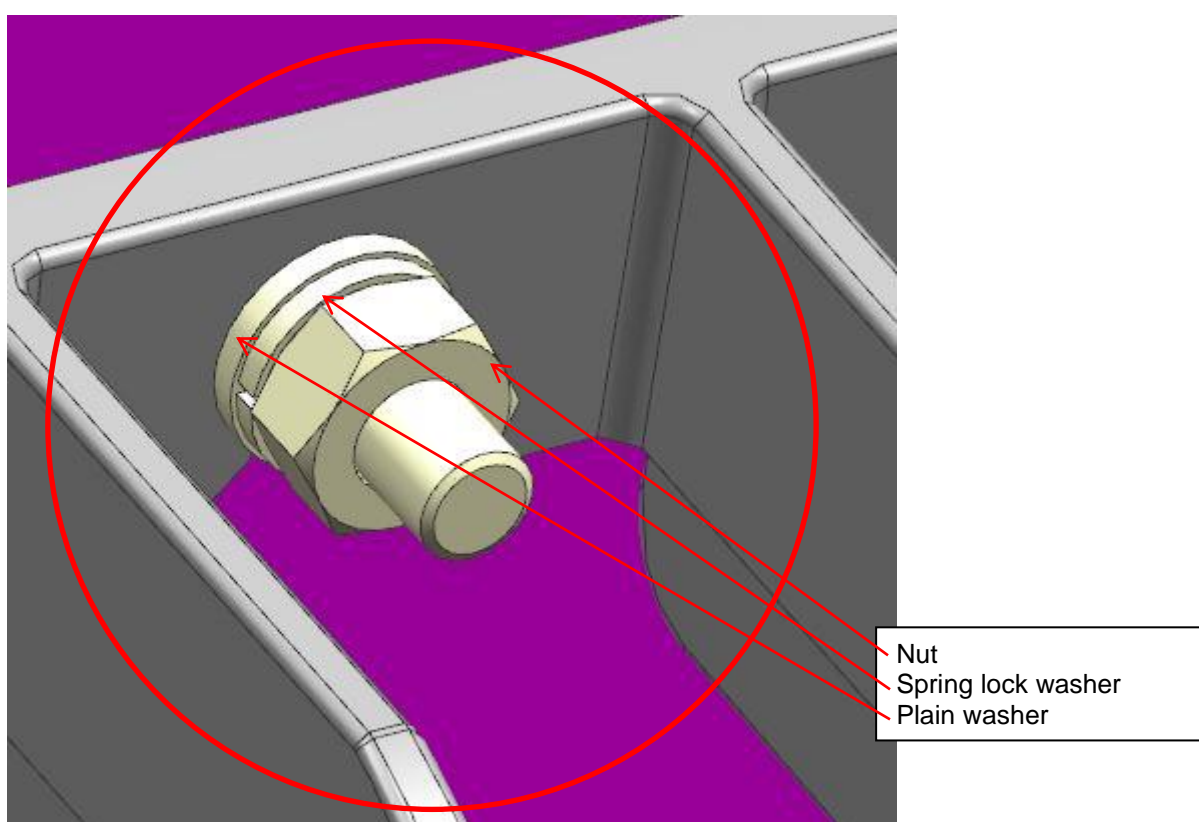
G120 FSB screw mounted



Mounting instruction:

The G120 units are mounted on the adaptor plate with nut, spring lock washer and plain washer:

Unit	Thread size	Quantity screws/washers	Torque
G120/G120P FSA	M4	3	2.5 Nm
G120C FSA	M4	3	2.5 Nm
G120/G120P FSB	M4	4	2.5 Nm
G120C FSB	M4	4	2.5 Nm
G120/G120P FSC	M5	4	3.5 Nm
G120C FSC	M5	4	3.5 Nm



Cooling air clearances:

Unit	Top	Bottom	Front
G120/G120P FSA	80	100	100 PM240-2/-PM230
G120C FSA	-	-	-
G120/G120P FSB	80	100	100 PM240-2/-PM230
G120C FSB	-	-	-
G120/G120P FSC	80	100	100 PM240-2/-PM230
G120C FSC	-	-	-

Values in mm