



Mounting System Specifications

Bulletin Number 141A

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Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

Resource	Description
Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, http://www.ab.com	Provides declarations of conformity, certificates, and other certification details.

You can view or download publications at <http://www.rockwellautomation.com/literature/>. To order paper copies of technical documentation, contact your local Allen-Bradley distributor or Rockwell Automation sales representative.

LISTEN.
THINK.
SOLVE.®



Examples given in this section are for reference purposes. This basic explanation should not be used for product selection; not all combinations will produce a valid catalog number.

141A – G S 45 R R 25
 a *b* *c* *d* *e* *f* *g*

a

Type	
Code	Description
C	Compact standard busbar module with wires
G	Standard busbar module with wires

c

Width	
Code	Description
45	45 mm
54	54 mm
63	63 mm
72	72 mm
81	81 mm
90	90 mm
180	180 mm
270	270 mm

d

Top Hat Rail	
Code	Description
R	RA-specific plastic rail
S	Standard plastic rail
M	Metal rail

f

Current Rating	
Code	Description
Blank	0 A (no wires)
16	16 A
25	32 A
45	63 A
125	125 A

b

Length	
Code	Description
C	Compact (160 mm)
S	Short (200 mm)
M	Medium (260 mm)

e

Bottom Hat Rail	
Code	Description
R	RA-specific rail
S	Standard rail
H	Rail carrier
Blank	No bottom rail

g

Frame Size	
Code	Description
H	For 140U-H or 140M-H

141A – F S 45 R S 25
 a *b* *c* *d* *e* *f* *g*

a

Type	
Code	Description
F	Standard busbar module with terminals

c

Width	
Code	Description
45	45 mm
54	54 mm
63	63 mm
72	72 mm
81	81 mm
108	108 mm
110	110 mm

d

Top Hat Rail	
Code	Description
R	RA-specific plastic rail
S	Standard plastic rail
V	Screw mounting variable positions

e

Bottom Hat Rail	
Code	Description
S	Standard rail
Blank	No bottom rail

b

Length	
Code	Description
S	Short (200 mm)
M	Medium (260 mm)
L	Long (320 mm)

f

Current Rating	
Code	Description
25	32 A
63	63 A
200	200 A
250	250 A

g

Terminal Location	
Code	Description
Blank	Terminals on top
T	Terminals on top
B	Terminals on bottom

Examples given in this section are for reference purposes. This basic explanation should not be used for product selection; not all combinations will produce a valid catalog number.

141A – S S 45 R R 25
a b c d e f

a

Type	
Code	Description
S	ISO (isolation) busbar module with wires

c

Width	
Code	Description
45	45 mm
54	54 mm
63	63 mm

d

Top Hat Rail	
Code	Description
R	RA-specific plastic rail
S	Standard plastic rail

f

Current Rating	
Code	Description
Blank	0 A (no wires)
25	32 A
45	63 A

b

Length	
Code	Description
S	Short (200 mm)
M	Medium (260 mm)

e

Bottom Hat Rail	
Code	Description
R	RA-specific rail
S	Standard plastic rail

141A – W S 45 R R P
a b c d e f

a

Type	
Code	Description
W	Panel mounting modules

c

Width	
Code	Description
45	45 mm
54	54 mm

d

Top (Middle) Hat Rail	
Code	Description
R	RA-specific plastic rail

f

Terminal Location	
Code	Description
P	With PE terminal

b

Length	
Code	Description
S	Short (200 mm)
M	Medium (260 mm)
L	Long (333 mm)

e

Bottom Hat Rail	
Code	Description
R	RA-specific plastic rail

141A – C U H 125 B
a b c d e

a

Type	
Code	Description
C	Busbar module for specific devices

c

Width	
Code	Description
H	Frame size H
J	Frame size J
L	Frame sizes K and L

d

Current Rating	
Code	Description
125	125 A
250	250 A
600	600 A

e

Terminal Location	
Code	Description
Blank	Rear connecting studs (suitable for top or bottom)
T	Wires on top
B	Wires on bottom

b

Length	
Code	Description
U	Universal — 140U or 140M

Module Data

		Iso Modules		Standard Modules with Wire Connections				Standard Modules with Box Terminals			
		141A-S		141A-G, 141A-CC				141A-F			
		32	63	16	32	63	125	32	63	200	250
 stranded	[mm ²] [AWG]	6 10	10 8	4 12	6 10	10 8	—	4 12	16 6	6...70 10...2/0	35...120 2...250 MCM
 solid	[mm ²] [AWG]	—	—	—	—	—	—	4 12	16 6	6...70 10...2/0	35...120 2...250 MCM
	[mm ²] [AWG]	—	—	—	—	—	43 1/0	—	—	—	—
Insulation rating of conductors [°C]		105		105				—	—	—	—

* The admissible load of a complete system depends on the system topography and the application parameters. Factors of influence are ambient temperature, air circulation, busbar load, distribution of busbar load, mix of modules and switchgear components.

Supply Modules

		Supply Modules									
		141A-TR3F16	141A-VN370, 141A-CVN350	141A-CVN3150	141A-VN3120	141A-VN3185	141A-VN3300R	141A-VN3300F	141A-VU3300R	141A-VU3300F	
	stranded	[mm²] [AWG]	1.5...16 16...6	6...50 10...1/0	35...150 2...300 MCM	35...120 2...250 MCM	95...185 No. 3/0...350 MCM	150...300 300...600 MCM	—	120...300 250...600 MCM	—
	solid	[mm²] [AWG]	1.5...16 16...6	6...50 10...1/0	35...150 2...300 MCM	35...120 2...250 MCM	95...185 No. 3/0...350 MCM	150...300 300...600 MCM	—	120...300 250...600 MCM	—
	Laminated copper	[mm]	—	—	—	—	—	—	3 x 20 x 1... 10 x 32 x 1	—	3 x 20 x 1... 10 x 32 x 1
Tightening Torque	[N•m/lb•in]	—	8...10/ 71...89	12...15/ 106...133	12...15/ 106...133	30/266	30/266	30/266	30/266	30/266	30/266

Class J Bus Bar Fuse Bases

		Class J Bus Bar Fuse Bases		
		141A-NFJ100	141A-NFJ200	141A-NFJ400
 stranded	[mm ²] [AWG]	6...70 10...2/0	10...150 8...300 MCM	16...300 4...600 MCM
 solid	[mm ²] [AWG]	6...70 10...2/0	10...150 8...300 MCM	16...300 4...600 MCM
Tightening Torque	[N•m/lb•in]	14...16/125...142	16...18/142...160	38...40/336...355

Single Terminals

		Single Terminals		
		141A-VS116, 141A-VS216	141A-VS135, 141A-VS235	141A-VS170, 141A-VS270
 stranded	[mm ²] [AWG]	2.5...16 14...6	4...35 12...2	16...70 6...2/0
 solid	[mm ²] [AWG]	2.5...16 14...6	4...35 12...2	16...70 6...2/0
 Laminated copper	1. Conductor [mm]	—	5 x 9 x 0.8	5 x 9 x 0.8
	2. Conductor [mm]	—	—	5 x 9 x 0.8
Clamping area Width x Height	[mm]	7.5 x 7.5	10.5 x 11	14 x 14
Tightening Torque	[N•m/lb•in]	4/35	6/53	10/120

Short-Circuit Current Ratings (support spacing at 800 mm)

Cat. No.	Description	Max. Circuit Bkr. Cat. No.	C. B. Rating	SCCR		Max. Class CC, J or T Fuse	SCCR	Max. Class CC, J or T Fuse	SCCR
				480V	600V				
141A-B125*	12x5 Copper Bus Bar	140U-J6D3-D25	250 A	65 kA	25 kA	400 A	100 kA	400 A	100 kA
141A-B1210*	12x10 Copper Bus Bar	140U-J6D3-D25	250 A	65 kA	25 kA	400 A	100 kA	400 A	100 kA
141A-B205*	20x5 Copper Bus Bar	140U-K6D3-D40	400 A	65 kA	35 kA	500 A	100 kA	400 A	100 kA
141A-B2010*	20x10 Copper Bus Bar	140U-K6D3-D40	400 A	65 kA	35 kA	500 A	100 kA	400 A	100 kA
141A-B305*	30x5 Copper Bus Bar	140U-K6D3-D40	400 A	65 kA	35 kA	500 A	100 kA	500 A	100 kA
		140U-L6D3-D60	600 A	—	35 kA	500 A	100 kA	500 A	100 kA
141A-B3010*	30x10 Copper Bus Bar	140U-K6D3-D40	400 A	65 kA	35 kA	600 A	100 kA	600 A	100 kA
		140U-L6D3-D60	600 A	65 kA	35 kA	600 A	100 kA	600 A	100 kA
141A-BT1*NZ	TT Copper Bus Bar	140U-M6D3-D80	800 A	65 kA	30 kA	800 A Class T	100 kA	600 A	100 kA
141A-TU3	Bus Bar Support	140U-K6D3-D40	400 A	65 kA	35 kA	600 A	100 kA	600 A	100 kA
		140U-L6D3-D60	600 A	65 kA	35 kA	600 A	100 kA	600 A	100 kA
141A-T13	Bus Bar Support	140U-M6D3-D80	800 A	65 kA	30 kA	800 A Class T	100 kA	600 A	100 kA
141A-TR3E	BB Support End Cover	140U-K6D3-D40	400 A	65 kA	35 kA	600 A	100 kA	600 A	100 kA
		140U-L6D3-D60	600 A	65 kA	35kA	600 A	100 kA	600 A	100 kA
141A-T13E	BB Support End Cover	140U-M6D3-D80	800 A	65 kA	30 kA	800 A Class T	100 kA	600 A	100 kA
141A-VN370	Supply Module	140U-J6D3-D25	250 A	65 kA	25 kA	400 A	100 kA	400 A	100 kA
141A-VN3120	Supply Module	140U-K6D3-D40	400 A	65 kA	35 kA	600 A	100 kA	600 A	100 kA
		140U-L6D3-D60	600 A	65 kA	35 kA	600 A	100 kA	600 A	100 kA
141A-VN3185	Supply Module	140U-K6D3-D40	400 A	65 kA	35 kA	500 A	100 kA	300 A	100 kA
141A-VN3300R	Supply Module	140U-K6D3-D40	400 A	65 kA	35 kA	500 A	100 kA	300 A	100 kA
141A-VU3300R	Supply Module	140U-K6D3-D40	400 A	65 kA	35 kA	500 A	100 kA	300 A	100 kA
141A-VS54136F	Profile Terminals	140U-M6D3-D80	800 A	65 kA	30 kA	800 A Class T	100 kA	600 A	100 kA
141A-CUH125B	Circuit Breaker Module	140U-H6C3-D12	125 A	65 kA	25 kA	N/A	N/A	N/A	N/A
141A-CUH125T	Circuit Breaker Module	140U-H6C3-D12	125 A	65 kA	25 kA	N/A	N/A	N/A	N/A
141A-CUJ250	Circuit Breaker Module	140U-J6D3-D25	250 A	65 kA	25 kA	N/A	N/A	N/A	N/A
141A-CUL600	Circuit Breaker Module	140U-K6D3-D40	400 A	65 kA	35 kA	N/A	N/A	N/A	N/A
		140U-L6D3-D60	600 A	65 kA	35 kA	N/A	N/A	N/A	N/A
141A-SS*25	Bus Bar Module	140M-C2E-B16	1.6 A	65 kA	47 kA	30 A	100 kA	30 A	100 kA
141A-SM*25		140M-C2E-C10	10 A	65 kA	30 kA	30 A	100 kA	30 A	100 kA
141A-GS*25		140M-C2E-C25	25 A	30 kA	30 kA	30 A	100 kA	30 A	100 kA
141A-GM*25		140M-C2E-C25	25 A	30 kA	30 kA	30 A	100 kA	30 A	100 kA
141A-FS*25		140M-D8E-C25	25 A	65 kA	30 kA	30 A	100 kA	30 A	100 kA
141A-SS*45	Bus Bar Module	140M-F8E-C32	32 A	65 kA	30 kA	—	—	—	—
141A-SM*45		140M-F8E-C45	45 A	65 kA	18 kA	—	—	—	—
141A-GS*45		140M-F8E-C45	45 A	65 kA	18 kA	—	—	—	—
141A-GM*45		140M-F8E-C45	45 A	65 kA	18 kA	—	—	—	—

Busbars (required quality)

Material	E-CU blank or tinned	
Busbar widths 5 or 10 mm thick	[mm]	12, 15, 20, 25, 30
Tolerance of thickness	[mm]	+0.1/-0.3
Corner radius	[mm]	0.5
Tolerance of center spacing	[mm]	60 +0.5/-0.5
Standard	DIN 46433	

General Data

Main Circuits

Rated insulation voltage U_i		
Acc. to IEC, EN	[V]	690
Acc. to UL, NEMA, CSA, EEMAC	[V]	600
Rated impulse withstand voltage U_{imp}	[kV]	8
Rated frequency	[Hz]	50...60
Pollution degree		3
Ambient temperature		
Operation	[°C]	-25...+60
Transport and storage	[°C]	-50...+80

Protection class	
- Modules and busbars	IP00
- Modules and busbars mounted on plate, connected conductors and usage of busbar covers	IP20
- Iso-Modules with device adapter plate removed, from front	IP20 B (finger proof)
Standards and Norms	IEC/EN 60439-1
Certifications	CE, cULus Recognized

Control Circuits

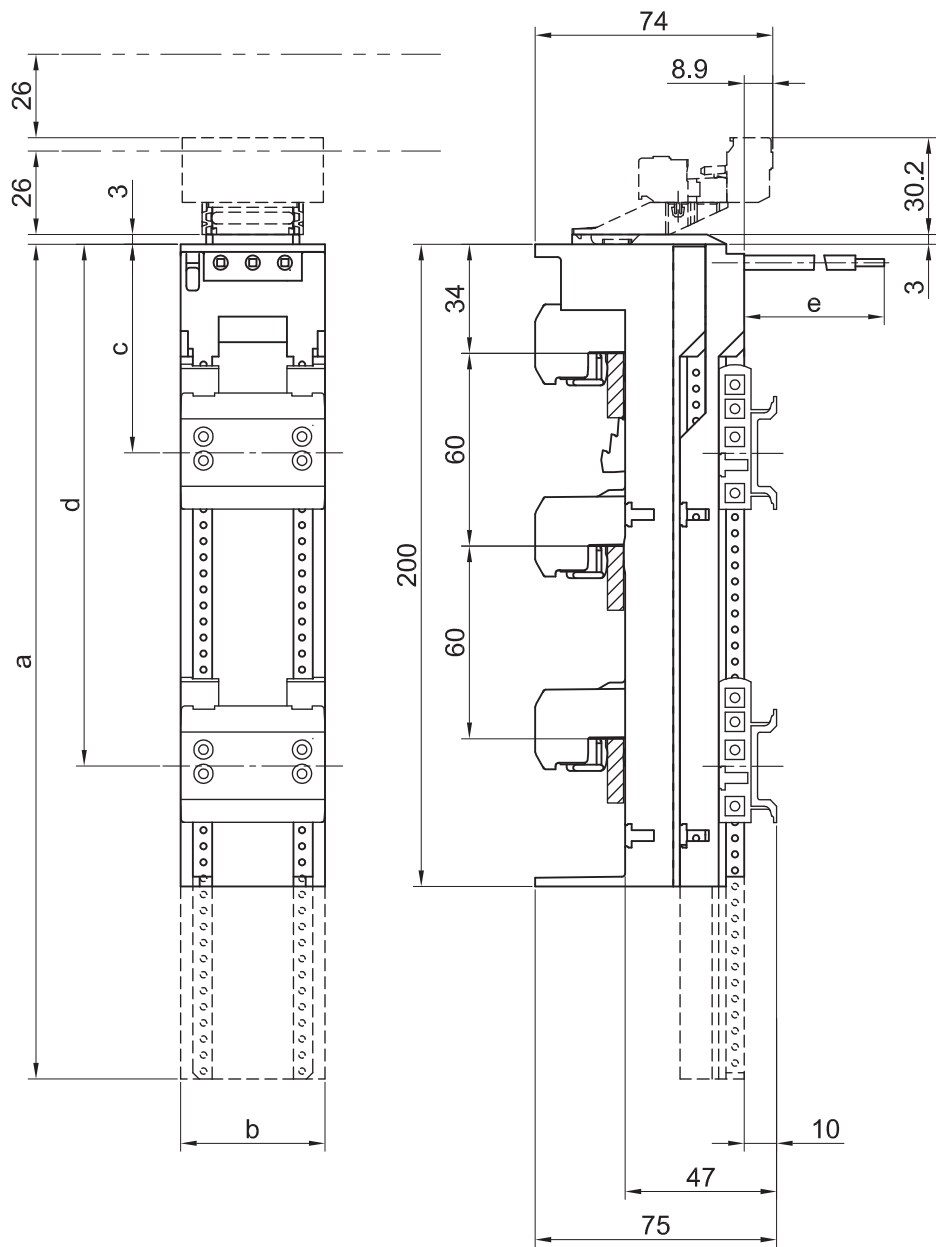
Control plugs			Micro switch		
Rated insulation voltage U_i			Rated insulation voltage U_i		
Acc. to IEC, EN	[V]	250	Acc. to IEC, EN	[V]	250
Acc. to UL, NEMA, CSA, EEMAC	[V]	300	Acc. to UL, NEMA, CSA, EEMAC	[V]	300
Rated impulse withstand voltage U_{imp}			Suitable for switching contactors 100-C AC-coil-voltage ≤ 250 V DC-coil-voltage ≤ 120 V		
	[kV]	4			
Rated current at 40 °C ambient temperature I_{th}			Rated current		
	[A]	12			

Weight [g]

MCS Iso Busbar Module	[g]	MCS Standard Busbar Module >100 A	[g]	Busbar Components	[g]	Busbar Components	[g]	Accessories	[g]
141A-SM45RS25	402	141A-FL110V250T	1200	141A-BCF1	750	141A-NFHCC30	185	141A-AHR45	15
141A-SM45S	300	141A-FS108V200B	1000	141A-BCF1H	40	141A-NFHCC30L	187	141A-AHR54	16
141A-SM54RS25	418	141A-FS108V200T	1000	141A-BCR	800	141A-NFJ100	3280	141A-AHR63	16
141A-SM54RS45	494			141A-BCT1	380	141A-NFJ200	4500	141A-AHS72	17
141A-SM54S	327			141A-BK1	144	141A-NFJ400	6900	141A-AHS81	18
141A-SM63RS45	502			141A-BK180	395	141A-NFVF1150	116	141A-AK	1
141A-SM63S	405			141A-BK228	425	141A-NFVF2240	199	141A-APC10	35
141A-SS45R	279			141A-BK250	440	141A-NFVF3300	247	141A-APC12	40
141A-SS45RR25	381			141A-BKC	420	141A-PS105	172	141A-APC8	29
141A-SS54R	305			141A-BKH	90	141A-PS145	196	141A-APH	5
141A-SS54RR25	396			141A-BKS	150	141A-PS200	218	141A-AS	75
141A-SS54RR45	472			141A-BS10	101	141A-T11	158	141A-AS9B	20
141A-SS63RR45	480			141A-BS5	87	141A-T13	591	141A-AS9S	38
				141A-BST48	700	141A-T13E	20	141A-AS9W	20
				141A-BST76	1050	141A-TR1	59	141A-CAS9B	20
				141A-CBCF1	420	141A-TR3	203	141A-FTS63	8
				141A-CBCF1H	18	141A-TR3E	21		
				141A-CTS3	52	141A-TR3F16	285		
				141A-CTU3	68	141A-TR4	256		
				141A-CVN3150	575	141A-TR4E	28		
				141A-CVN350	206	141A-TS3	131		
				141A-N160SB	2160	141A-TU3	127		
				141A-N320SB	5650	141A-VB710528F	840		
				141A-ND1	130	141A-VB75528F	500		
				141A-ND2	220	141A-VB76828F	630		
				141A-NDN66	570	141A-VC3A	185		
				141A-NDRY66	570	141A-VC3B	251		
				141A-NF0102	759	141A-VC3C	565		
				141A-NF1038	760	141A-VC3D	870		
				141A-NFAC00A	124	141A-VC5E	494		
				141A-NFAC1A	107	141A-VC5F	943		
				141A-NFAC2A	109	141A-VC5G	1461		
				141A-NFAC3A	156	141A-VN3120	485		
				141A-NFAD	61	141A-VN3185	1140		
				141A-NFAFR5	65	141A-VN3300F	1619		
				141A-NFAR	1	141A-VN3300R	1540		
				141A-NFASNC0	11	141A-VN370	360		
				141A-NFASNC1	11	141A-VS116	21		
				141A-NFASNF	7	141A-VS135	46		
				141A-NFASNFD	11	141A-VS170	71		
				141A-NFD125SB	2190	141A-VS2120	109		
				141A-NFD160	1300	141A-VS216	23		
				141A-NFD250	3760	141A-VS235	47		
				141A-NFD250SB	2460	141A-VS270	74		
				141A-NFD400	5500	141A-VU3300F	1325		
				141A-NFD630	7840	141A-VU3300R	1550		

Dimensions are in millimeters. Dimensions are not intended for manufacturing purposes.

Cat. No. 141A-S...ISO Busbar Modules

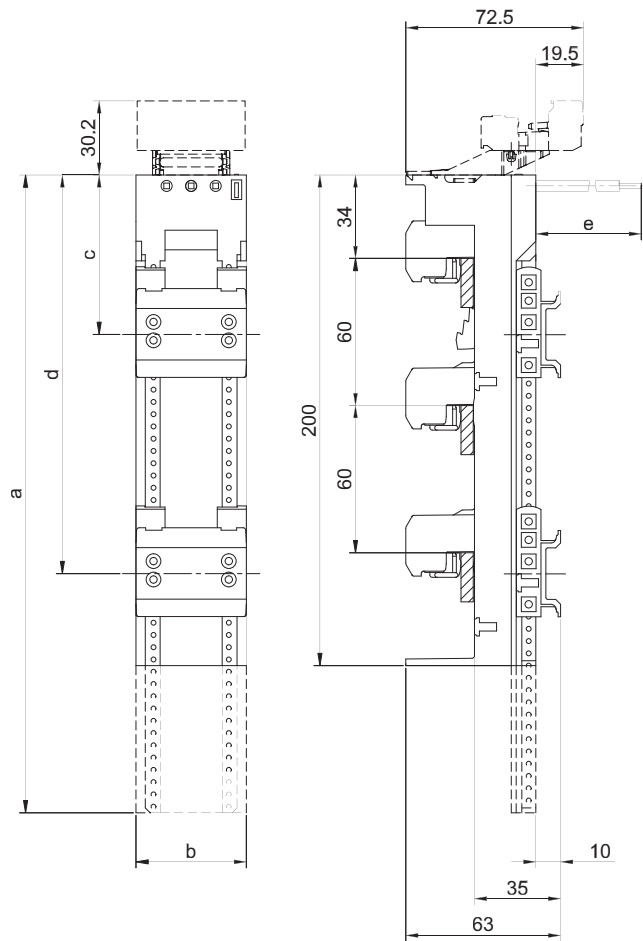


Cat. No.	A	B	C	D	E
141A-SS45RR25	200	45	65	162.5	73
141A-SS54RR25	200	54	65	162.5	73
141A-SS54RR45	200	54	65	170	95
141A-SS63RR45	200	63	65	170	95
141A-SS45R	200	45	—	162.5	—
141A-SS54R	200	54	—	170	—
141A-SM45RS25	260	45	65	170	73
141A-SM54RS25	260	54	65	170	73
141A-SM54RS45	260	54	65	170	95
141A-SM63RS45	260	63	65	170	95
141A-SM45S	260	45	—	170	—
141A-SM54S	260	54	—	170	—
141A-SM63S	260	63	—	170	—

NOTE:
FREE SPACE REQUIRED TO GET THE
DEVICE ADAPTER PLATE IN PARKING
POSITION.

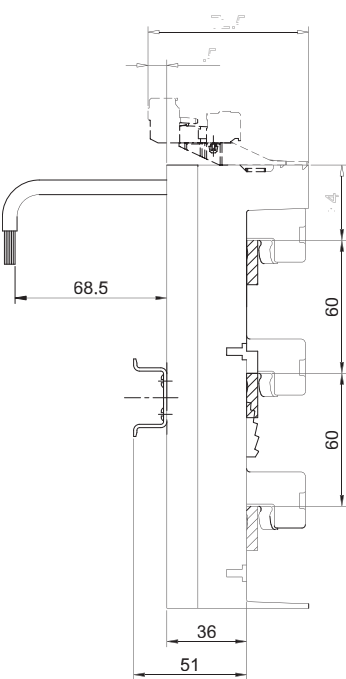
Dimensions are in millimeters. Dimensions are not intended for manufacturing purposes.

Cat. No. 141A-GS, Standard Busbar Modules with Wires

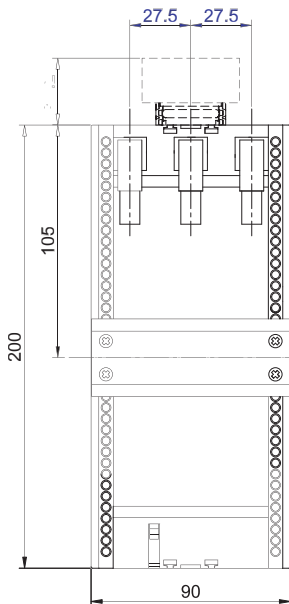


Cat. No.	A	B	C	D	E
141A-CC45R32	160	45	62	—	90
141A-CC54R63	160	54	62	—	90
141A-GM45RS25	260	45	65	170	73
141A-GM54RS25	260	54	65	170	73
141A-GM54RS45	260	54	65	170	95
141A-GM63RS45	260	63	65	170	95
141A-GM45S	260	45	—	170	—
141A-GM54S	260	54	—	170	—
141A-GM63S	260	63	—	170	—
141A-GS45RR16	200	45	65	162.5	73
141A-GS54RR16	200	54	65	162.5	73
141A-GS45RR25	200	45	65	162.5	73
141A-GS54RR25	200	54	65	162.5	73
141A-GS54RR45	200	54	65	170	95
141A-GS63RR45	200	63	65	170	95
141A-GS45R	200	45	—	162.5	—
141A-GS54R	200	54	—	170	—
141A-GS72S	200	72	105	—	—
141A-GS81S	200	81	105	—	—

NOTE:
FREE SPACE REQUIRED TO PLUG/UNPLUG MODULE INTO THE
BUSBARS.

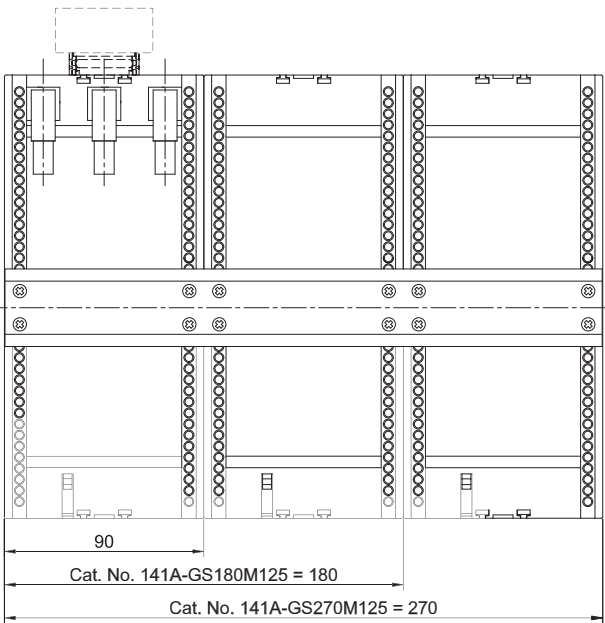


Cat. No. 141A-GS90M125



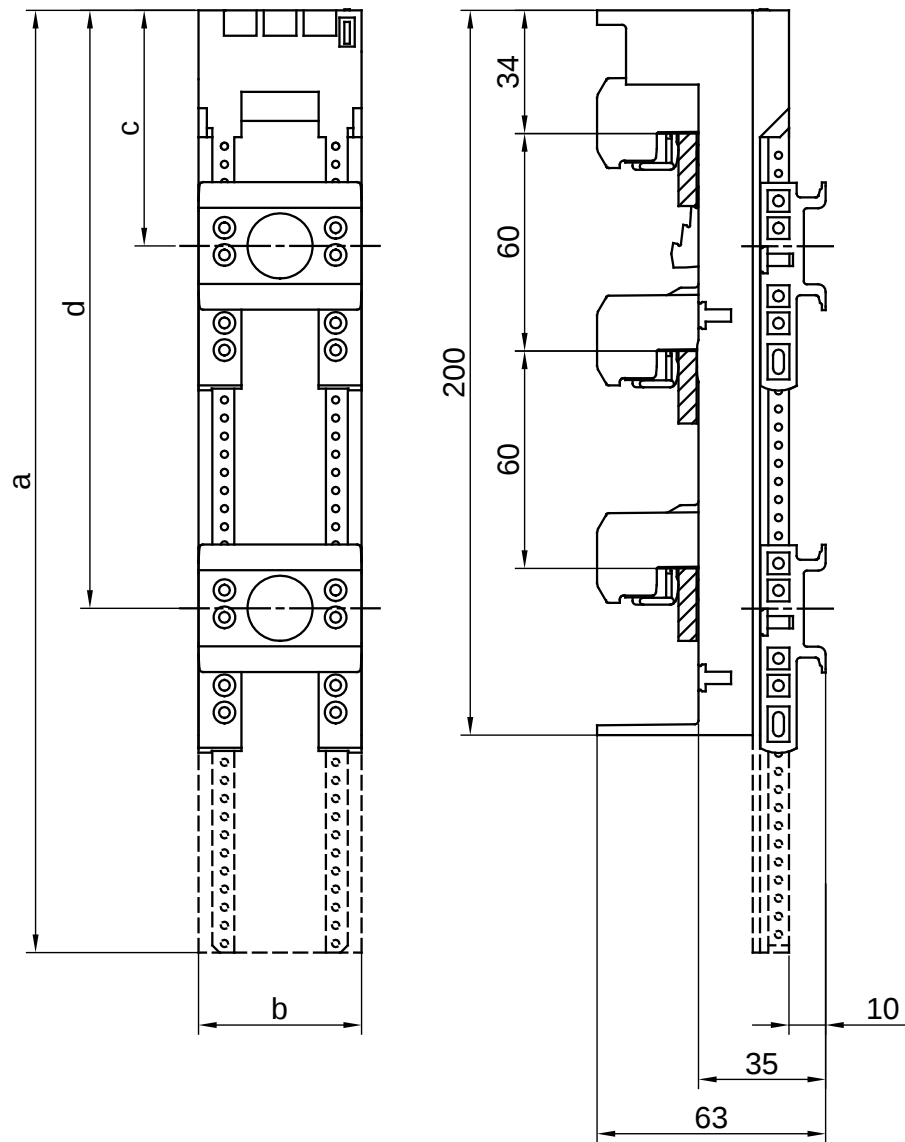
Cat. No. 141A-GS180M125

Cat. No. 141A-GS270M125



Dimensions are in millimeters. Dimensions are not intended for manufacturing purposes.

Cat. No. 141A-F... Standard Busbar Modules with Terminals

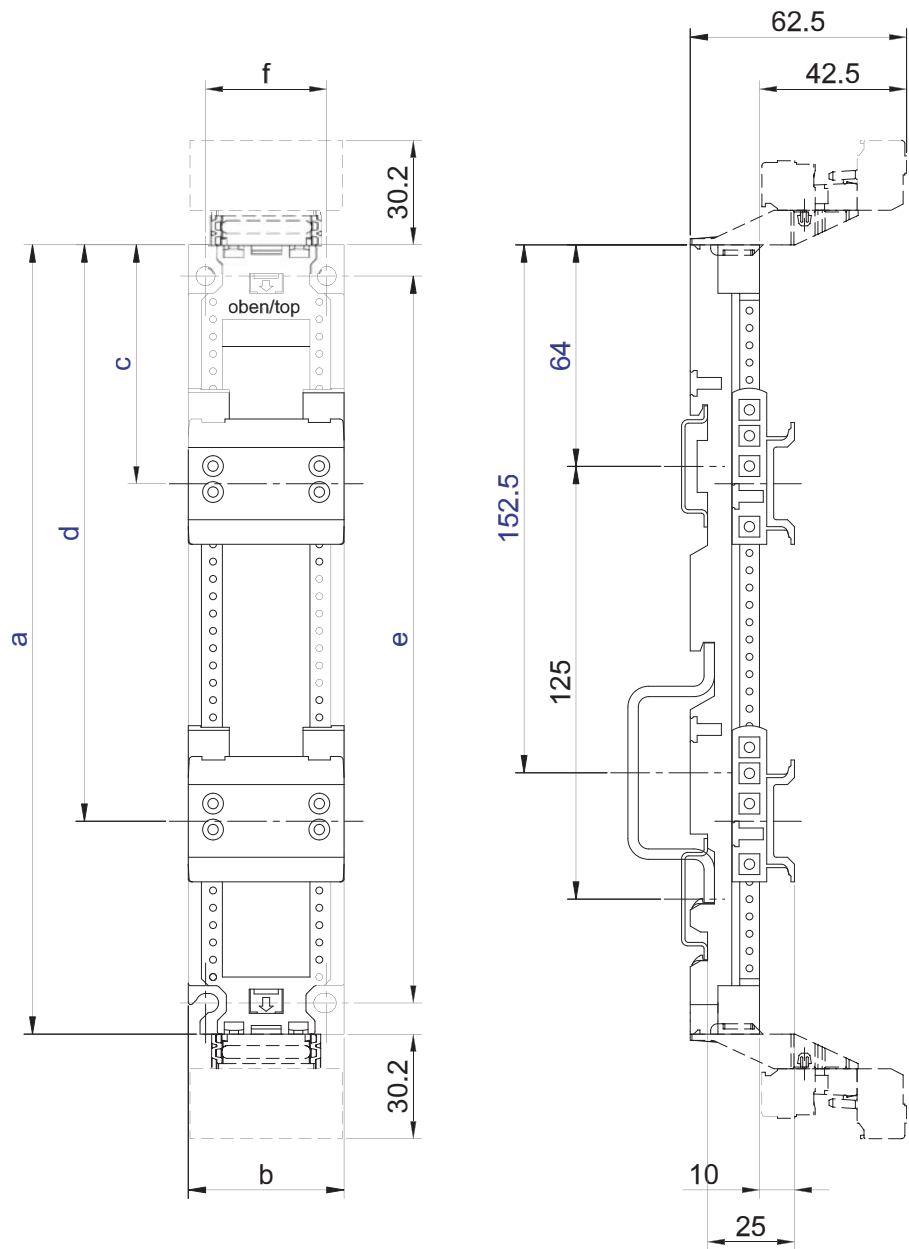


Cat. No.	a	b	c	d	WIRE SIZES	
					mm ²	AWG
141A-FS45S25	200	45	65	—	6	#10
141A-FS54S63	200	54	65	—	16	#6
141A-FS63S63	200	63	65	—	16	#6
141A-FS72S63	200	72	65	—	16	#6
141A-FS81S63	200	81	65	—	16	#6
141A-FM45SS25	260	45	65	170	6	#10
141A-FM54SS63	260	54	65	170	16	#6
141A-FM63SS63	260	63	65	170	16	#6
141A-FM72SS63	260	72	65	170	16	#6
141A-FM81SS63	260	81	65	170	16	#6

NOTE:
1. FREE SPACE REQUIRED TO
PLUG/UNPLUG MODULE
INTO THE BUSBARS.

Dimensions are in millimeters. Dimensions are not intended for manufacturing purposes.

Cat. No. 141A-W... Panel Mount Modules

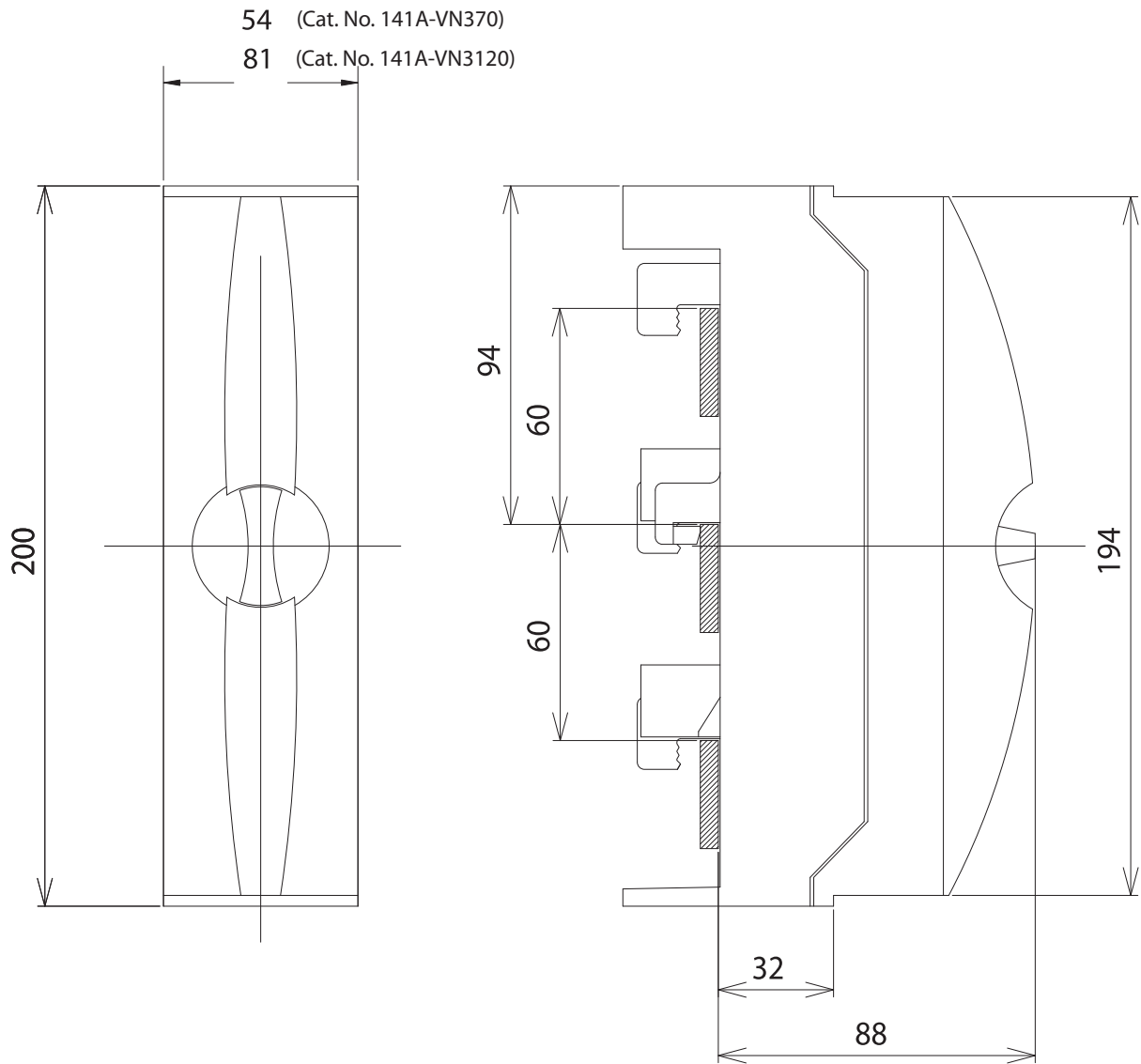


Cat. No.	a	b	c	d	e	f
141A-WS45RR(P)	228	45	69	166.5	210	35
141A-WS54RR(P)	228	54	69	174	210	40
141A-WM45RR(P)	283	45	69	166.5	265	35
141A-WM54RR(P)	283	54	69	174	265	40
141A-WL45RR(P)	333	45	69	166.5	315	35
141A-WL54RR(P)	333	54	69	174	315	40

Dimensions are in millimeters. Dimensions are not intended for manufacturing purposes.

Supply Modules

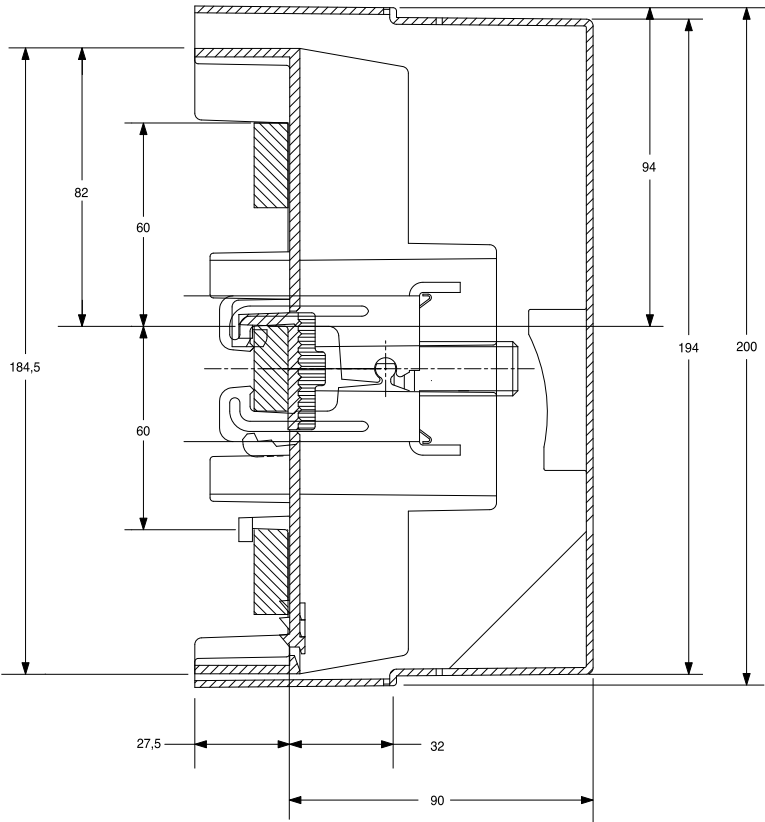
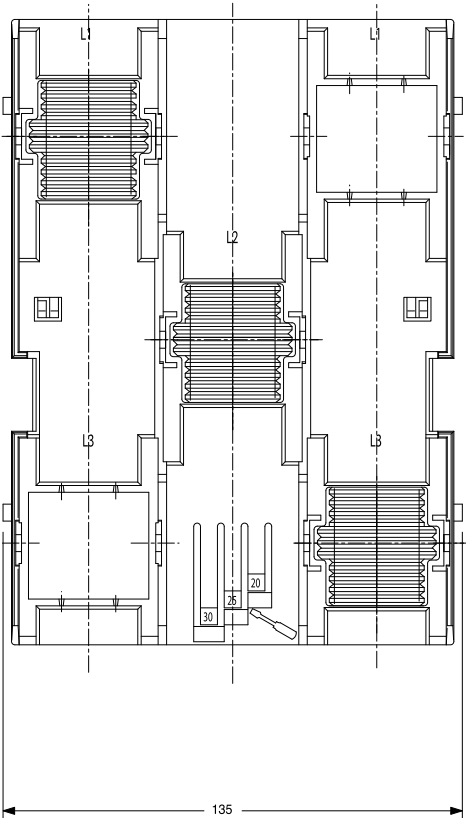
Cat. Nos. 141A-VN370 and 141A-VN3120



Dimensions are in millimeters. Dimensions are not intended for manufacturing purposes.

Supply Modules, Continued

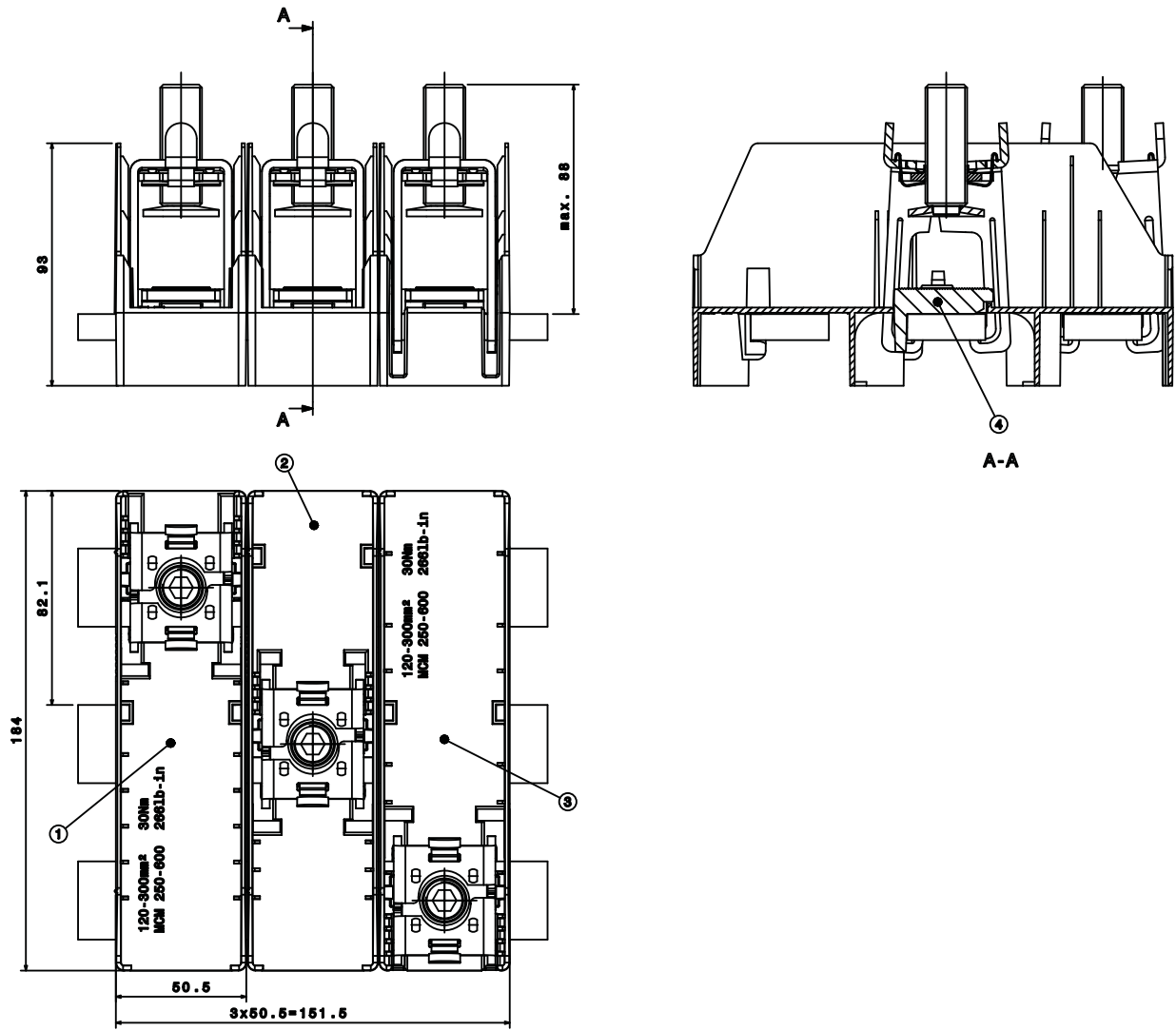
Cat. Nos. 141A-VN3185, -VN3300R, and -VN3300F



Dimensions are in millimeters. Dimensions are not intended for manufacturing purposes.

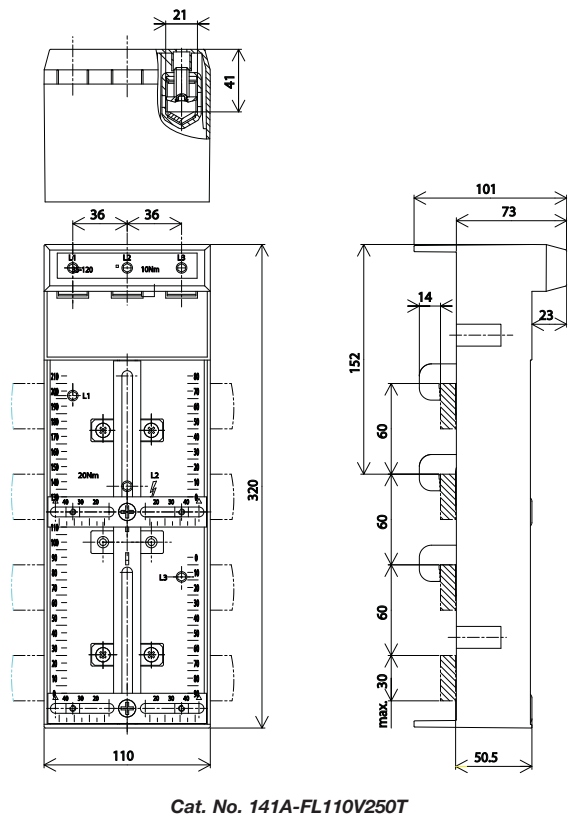
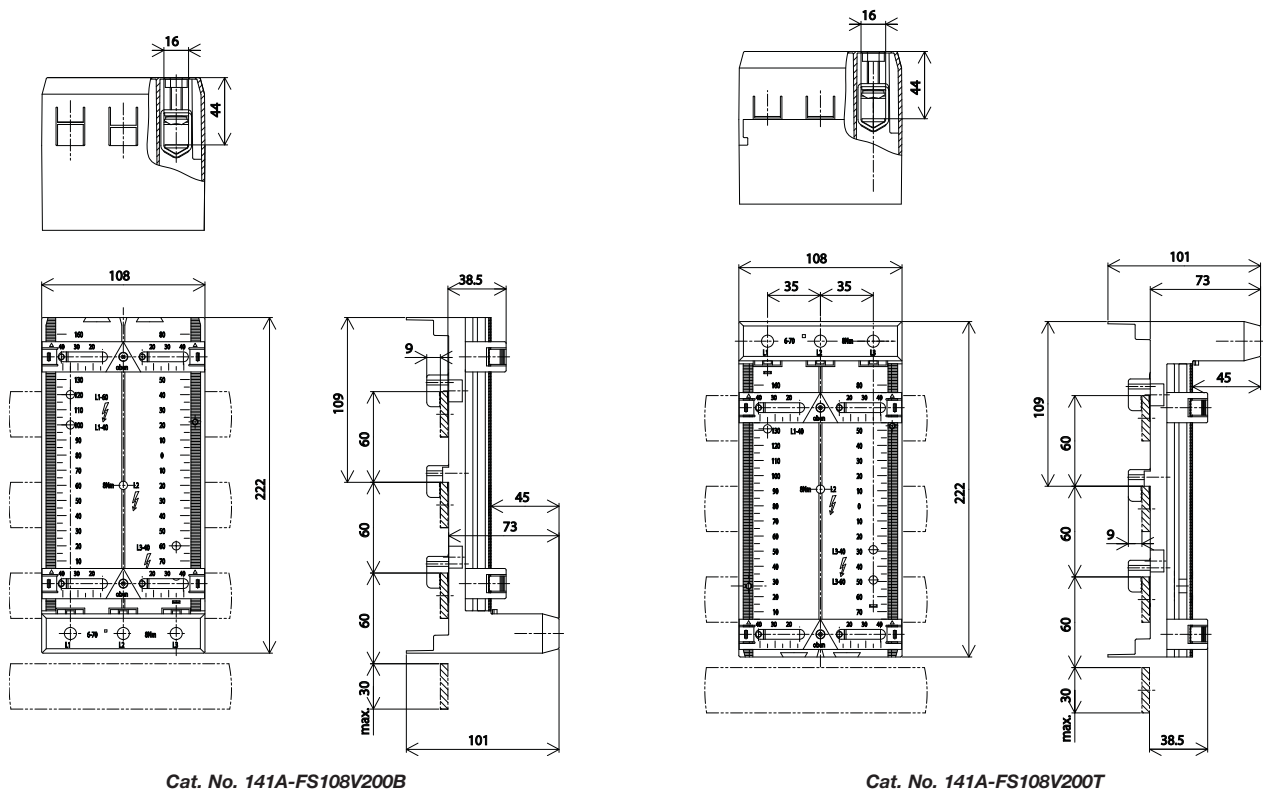
Supply Modules, Continued

Cat. Nos. 141A-VU3300R and -VU3300F



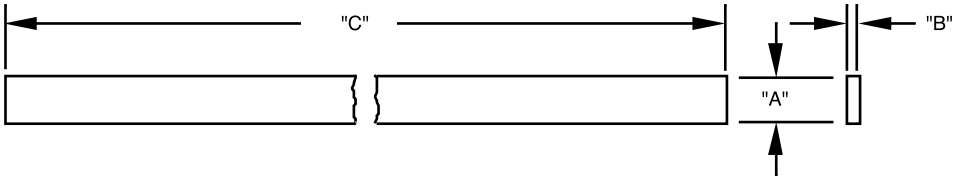
Dimensions are in millimeters. Dimensions are not intended for manufacturing purposes.

Standard Busbar Modules — Universal Adapters



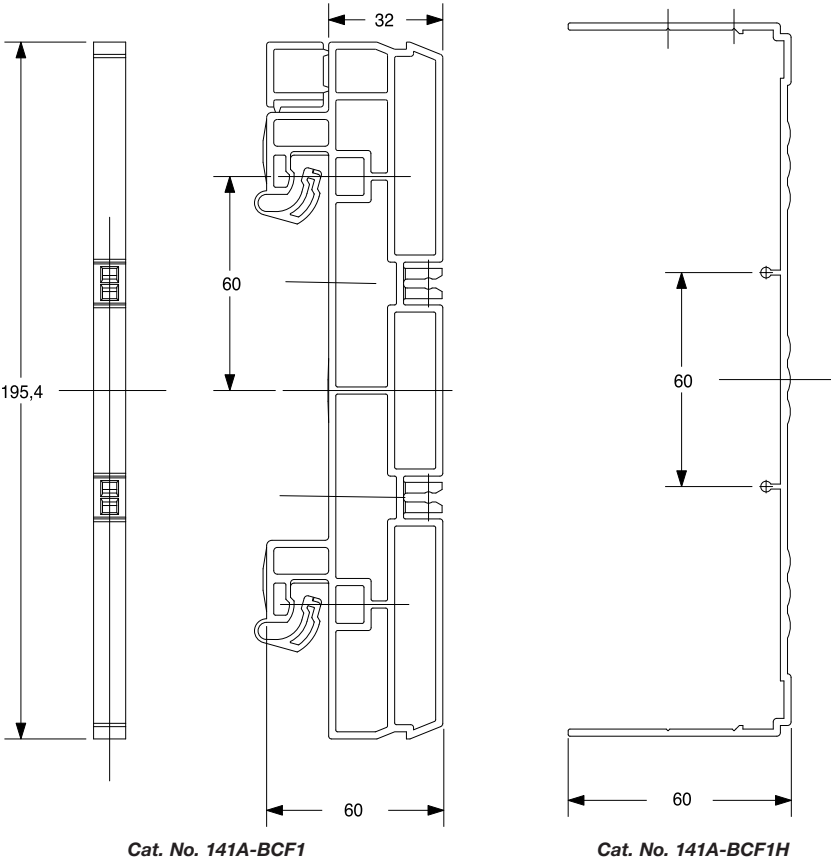
Dimensions are in millimeters. Dimensions are not intended for manufacturing purposes.

Busbars

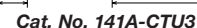


Cat. No.	A	B	C	Cat. No.	A	B	C
141A-B3010A	30	10	800	141A-B255B	25	5	1600
141A-B2010A	20	10	800	141A-B205B	20	5	1600
141A-B1210A	12	10	800	141A-B155B	15	5	1600
141A-B305A	30	5	800	141A-B125B	12	5	1600
141A-B255A	25	5	800	141A-B3010N	30	10	2400
141A-B205A	20	5	800	141A-B2010N	20	10	2400
141A-B155A	15	5	800	141A-B1210N	12	10	2400
141A-B125A	12	5	800	141A-B305N	30	5	2400
141A-B3010B	30	10	1600	141A-B255N	25	5	2400
141A-B2010B	20	10	1600	141A-B205N	20	5	2400
141A-B1210B	12	10	1600	141A-B155N	15	5	2400
141A-B305B	30	5	1600	141A-B125N	12	5	2400
				141A-BT11NZ	30	40	2400
				141A-BT12NZ	30	40	2400

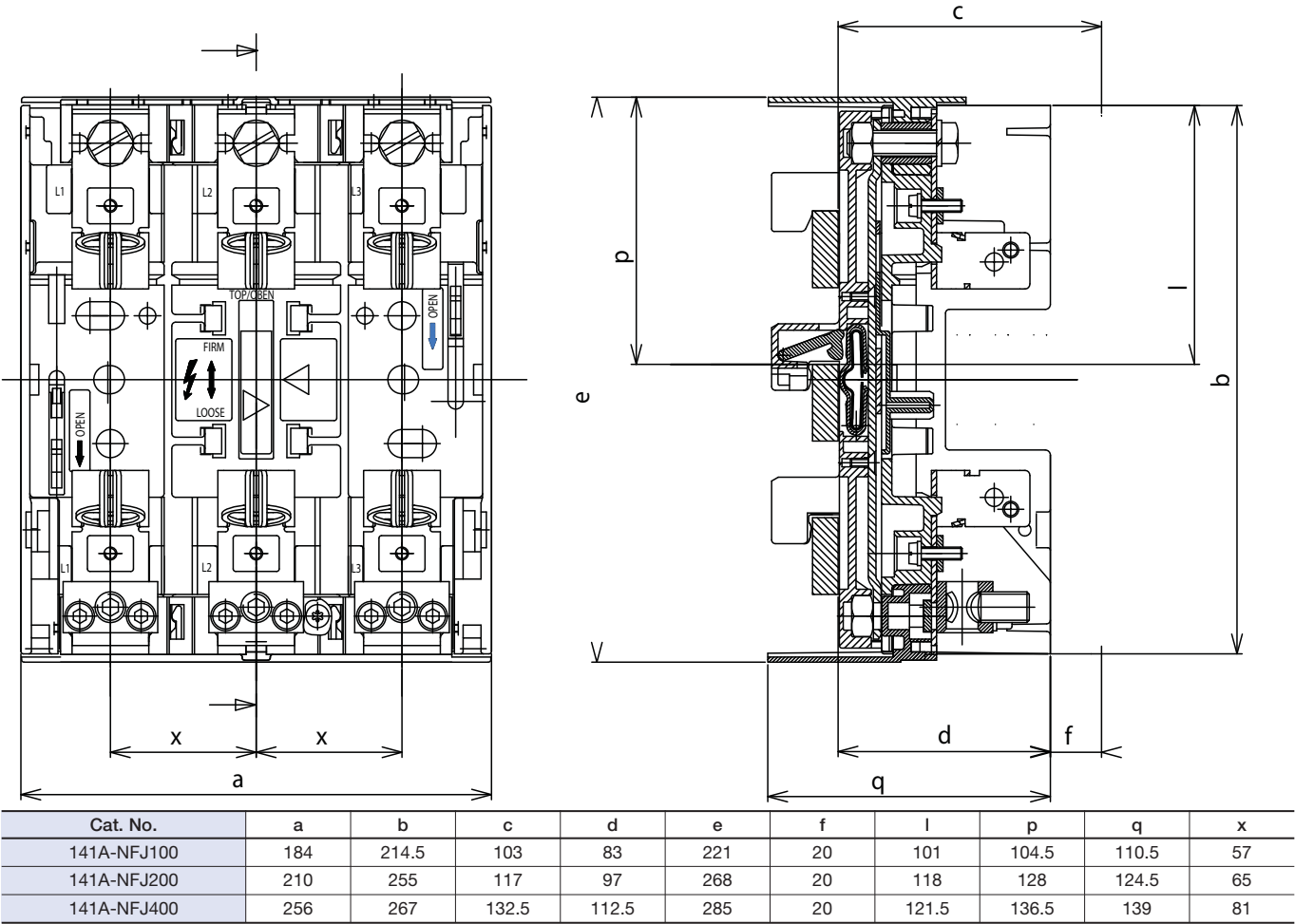
Cat. Nos. 141A-BCF1, 141A-BCF1H Busbar Cover and Cover Holder



Cat. No. 141A-TR...Busbar Supports and End Covers

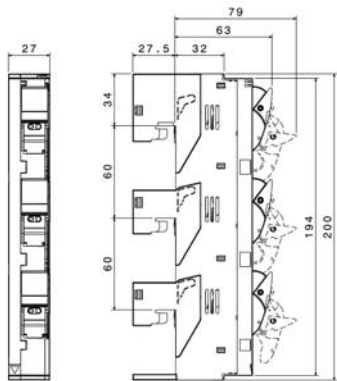


Dimensions are in millimeters. Dimensions are not intended for manufacturing purposes.
Cat. No. 141A-NFJ...

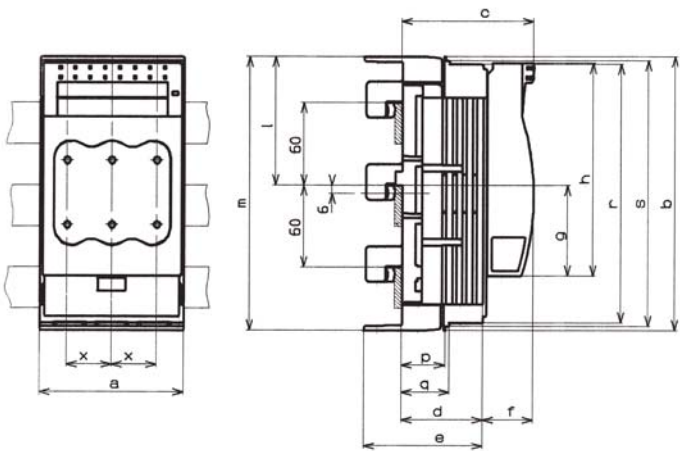


Dimensions are in millimeters. Dimensions are not intended for manufacturing purposes.

Cat. No. 141A-NFH...



Cat. No. 141A-NFJ...C



Cat. No.	a	b	c	d	e	g	h	l	m	p	q	r	s	x
141A-NFJ30C	106	200	104.5	67.5	95	66	155	94	200	32	35	189	194	33
141A-NFJ60C	106	200	104.5	67.5	95	66	155	94	200	2	35	189	194	33
141A-NFJ100C	106	200	104.5	67.5	95	66	155	94	200	32	35	189	194	33
141A-NFJ200C	184	263	129	83	111	90	220	106.5	225	—	59	214.5	239	57

Important User Information

Read this document and the documents listed in the additional resources section about installation, configuration, and operation of this equipment before you install, configure, operate, or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.

Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice.

If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

In no event will Rockwell Automation, Inc. be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Rockwell Automation, Inc. cannot assume responsibility or liability for actual use based on the examples and diagrams.

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