



1336 IMPACT to a PowerFlex 700 (w/Vector Control) or PowerFlex 700S Phase II



Rockwell Automation's Technical Representatives and highly trained Distributor Drives Specialists will help you transition to the New, World-Class PowerFlex 700 or 700S AC Drive

Specifications and Features

Drive Model	1336 IMPACT	PowerFlex 700	PowerFlex 700S
Catalog Number	1336E-xxxxx	20B-xxxxxx	20D-xxxxxxx
120V	N/A	N/A	N/A
240V, 1-Phase	Derate by 50%	Derate by 50%	Derate by 50%
240V, 3-Phase	0.5-125 HP (0.4-93 kW)	0.5-100 HP (0.37-55 kW)	1-100 HP (0.37-55 kW)
480V	0.5-800 HP (0.4-597 kW)	0.5-700 HP (0.37-500 kW)	1-1250 HP (0.37-800 kW)
575V	1-800 HP (0.75-447 kW)	1-150 HP (0.75-132 kW)	1-1300 HP (0.37-1100 kW)
Normal Duty Overload			
Continuous	100%	100%	100%
1 Minute	150%	110%	110%
3 Seconds	200%	150%	150%
Heavy Duty Overload			
Continuous	N/A	100%	100%
1 Minute	N/A	150%	150%
3 Seconds	N/A	200%	200%
Frequency Control	400 Hz Max	420 Hz Max	400 Hz Max
PWM Frequency	2-8 kHz	2-10 kHz	2 -10 kHz
Enclosures Types	IP21, NEMA/UL Open, IP54/65, NEMA/UL Type 12/4X Heatsink Out the Back: Frames A-F	Open, NEMA/UL Type 0 Heatsink Out the Back: Fr 5-10 (heatsink IP54, NEMA/UL Type 12) IP20, NEMA/UL Type 1 IP54, NEMA/UL Type 12 - Fr 5/6	Open, IP00, IP20, NEMA/UL Type 1 IP54, Flange Mount, IP 21 Back (frames 5 and 6)
Ambient Temp (Typical)	0-50° C (Open Type)	IP20/Open: 50° C (Fr 0-6) 40° C (Fr 7-10) NEMA/UL Type 1: 40° C	50° C
Torque Control			
Open Loop Accuracy	+/-5%	5%	5%
Closed Loop Accuracy	+/-2%	2%	2%
Speed Control			
Open Loop Accuracy	+/-0.5%	0.1%	0.1%
Closed Loop Accuracy	0.001%	0.001%	0.001%
HP w/DC Link Choke	7.5-800 HP	0.5-875 HP	1-200 HP
HP w/AC Line Choke	N/A	NA	200-1300 HP
Volt Tolerance	±10%	±10%	±10%
Freq. Tolerance	47-63 Hz	47-63 Hz	47-63 Hz
Compliance Marks	CE, UL, cUL, C-Tick	All: UL, ATEX, cUL Frm. 0-6: CE, CSA, SEMIF47, RINA	CE, UL, cUL, C-tick
Maximum Altitude	1000 m	1000 m (without derating)	1000 m (without derating)

Specifications and Features *(continued)*

Drive Model	1336 IMPACT	PowerFlex 700	PowerFlex 700S
<i>Catalog Number</i>	1336E-xxxxx	20B-xxxxxx	20D-xxxxxxx
Hardware	EMC Filtering	External - 3ø	Internal - 2nd Environment
	Heatsink Out the Back	Frames A-F	Yes, Frames 5-10
	Zero Stacking	No	Yes
	Internal DB Transistor HP	No	1/2-50 HP (60-200 HP Option)
	Internal DB Resistor Option Hp	No	1/2-25 HP
	Encoder Input Standard	Option Card	Option
	Additional Feedback Options	No	Incremental (5V/12V)
	Number of Comms. Supported Simultaneously in Drive	1	1 - Supports multiple DPI comms with DPI External Communications Kit
	Removable MOV to Ground	No	Yes
	Safe-Off	No	No
Inputs/Outputs	Max. Short Circuit Rating	200,000A	200,000A
	Standard Discrete Inputs	(9) 115V, 24V source, 5V sink (5 - fully prog.)	(6) 24V or 115V sink/source
	Analog Inputs	(2) Bipolar (0-10V), (1) unipolar (4-20 mA)	(2) bipolar, ±10V or 0-20 mA
	Discrete Outputs	(3) Form C Relays	(3) Prog (1-Form C, 1-Form B, 1-Form A) (1) dedicated drive fault (Fr 7-10)
	Analog Outputs	(2) Bipolar (0-10 V), (1) unipolar (4-20 mA)	(2) Bipolar ±10V or 0-20 mA
	Pulse Output	No	No
	Optional I/O Voltage	115V, 24V, 5V	24V DC/115V AC
	PTC Input	No	Yes
	Encoder Input	Yes	Differential Dual Channel
	Pulse Input	Yes	Yes (with encoder option)
	Additional I/O	No	No
	Input Timer/Counter Functions	Yes	No
	Output Timer/Counter Functions	Yes	No
			2nd Encoder, Stegmann & Heidenhain High Res, Resolver, Stahltronics, Temponsonics SSI Interface
			3 - Two DPI connections to drive (1 - in door, 1 - on DPI External Comm Kit), One NetLinX daughter card and one embedded ethernet to DriveLogix controller
			Yes - Option installed in drive, Certified by TUV
			200,000A
			(3) 24V and (3) 24V or 115V sink/source
			(2) bipolar, ±10V, 0-20 mA
			(2) 24V Open Collector, (1) Form C Relay
			(2) Bipolar, ±10V or 0-20 mA
			Encoder Emulation with Hiedenhain Option
			24V/115V
			Yes
			Differential Dual Channel
			No
			Yes (with DriveLogix; Compact I/O)
			Yes
			Yes

Specifications and Features *(continued)*

Drive Model	1336 IMPACT	PowerFlex 700	PowerFlex 700S	
<i>Catalog Number</i>	1336E-xxxxx	20B-xxxxxx	20D-xxxxxxx	
Inputs/Outputs	Digital Input Scan Time (Not Through Put Time)	8 ms	500 μs	250 μs
	Analog Input Resolution	12 Bit	±10VDC & 0-20mA 11 Bit Plus Sign	A1/2 = 13 Bit Plus Sign, A3 10 Bit Plus Sign
	Analog Input Scan Time (Not Through Put Time)	4 ms	128 μs	250 μs
	Analog Output Resolution	12 Bit	±10V DC & 0-20 mA 11 Bit Plus Sign	±10V DC & 0-20 mA 11 Bit Plus Sign
	Analog Output Scan Time (Not Through Put Time)	4 ms	500 μs	250 μs
HIM Information	HIM - Local LCD	Yes	Yes - graphical	Yes - graphical
	HIM - Remote LCD	Yes	Yes, NEMA 4X/IP66	Yes, NEMA 4X/IP66
	HIM - Hand-held	Yes	Yes	Yes
	HIM - CopyCat function	Yes	Yes	Yes
	HIM - Languages	6	7	1
	HIM - Local LED	No	No	No
HIM - Auto/ Manual function	No	Yes	No	
Features	Motor Control Type	Force Control	FOC Vector, Sensorless Vector and V/Hz (Open or Closed Loop)	FOC Vector (both Open or Closed), V/Hz, PM
	Flying Start	Yes	Yes (Instantaneous)	Yes, with direction detection
	Bus Regulator	Yes	Yes	Yes
	S - Curve	Yes	Yes	Yes
	Drive Overload Protection	Yes	Advanced (Meets new NEC code)	Advanced (Meets new NEC code)
	Advanced Diagnostics	Yes	Yes - Electronic Test Points	Yes - Event Triggered Trending, Electronic Test Points
	Input Phase Loss	No	Yes	Yes
	User Sets	No	3 complete sets	No
	Preset Speeds	7	7	7
	Process Control Loop	Yes	PID (highly configurable)	PI (highly configurable)
	Fast Flux Up	Yes	Auto or Manual	Auto or Manual
	Fast Brake to Stop	No	Yes	No
	Flux Braking	Yes	Yes	Yes
	Feedback Loss Switchover	Yes	No	Yes - 2nd Encoder, Sensorless, Motor Sim or Feedback Option
Battery Back-up	No	No	Yes with DriveLogix	
Multi-Motor Parameters	No	supported by dynamic user sets	Only with DriveLogix	

Specifications and Features *(continued)*

Drive Model	1336 IMPACT	PowerFlex 700	PowerFlex 700S	
<i>Catalog Number</i>	1336E-xxxxx	20B-xxxxxx	20D-xxxxxxx	
Application Features	SynchLink	No	No	Yes - Fiber Optic Communication
	Motion Controller	No	No	DriveLogix, Motion Control & Complete programmability
	Inertia Adaptation	No	No	Yes - Adjust Bandwidth 4x
	Speed Profiles	Yes	Indexer for profiles based on time, dig inputs & encoder	Yes with DriveLogix Option
	Position Control	Yes (With Encoder Feedback)	Point to Point (Indexer), Pos. Follower	Point to Point, Indexer, Pos. Follower, Orientation with DriveLogix
	P-Jump (traverse function)	No	No	(With User Functons)
	Lifting Application	No	TorqProve for lifting applications standard	With DriveLogix Option
	Winder Application	Yes	No	With DriveLogix Option
	Electronic Gearing/Line Shaft	No	No	Yes

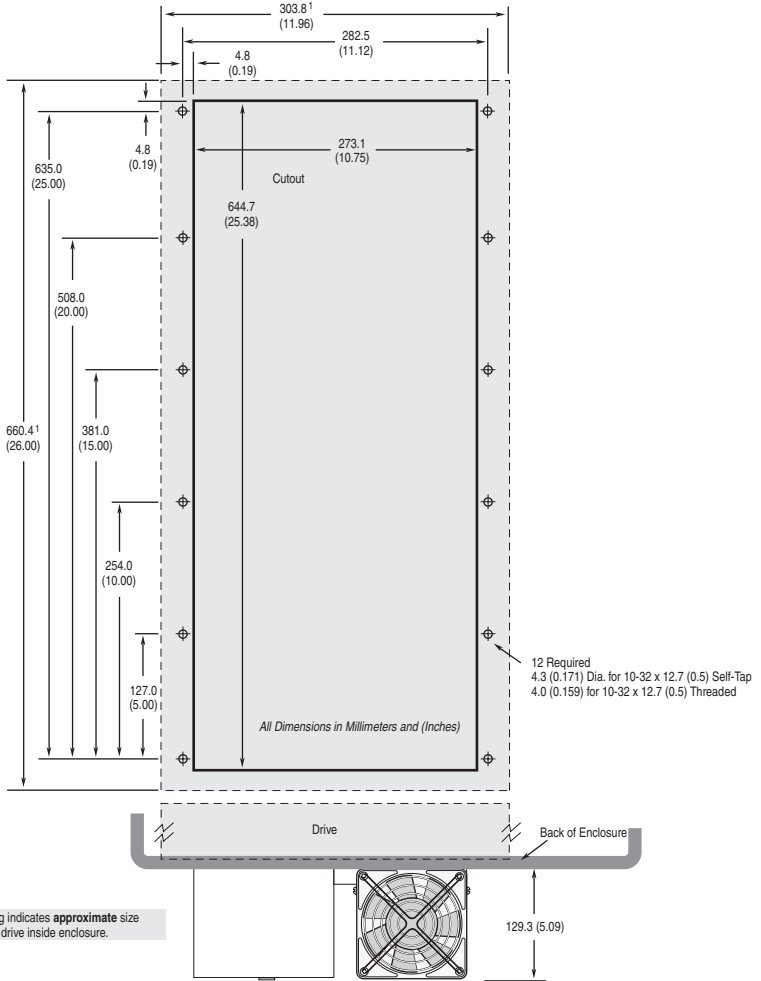
The marketing materials information and analysis provided are based upon information that is readily available.

Dimensions

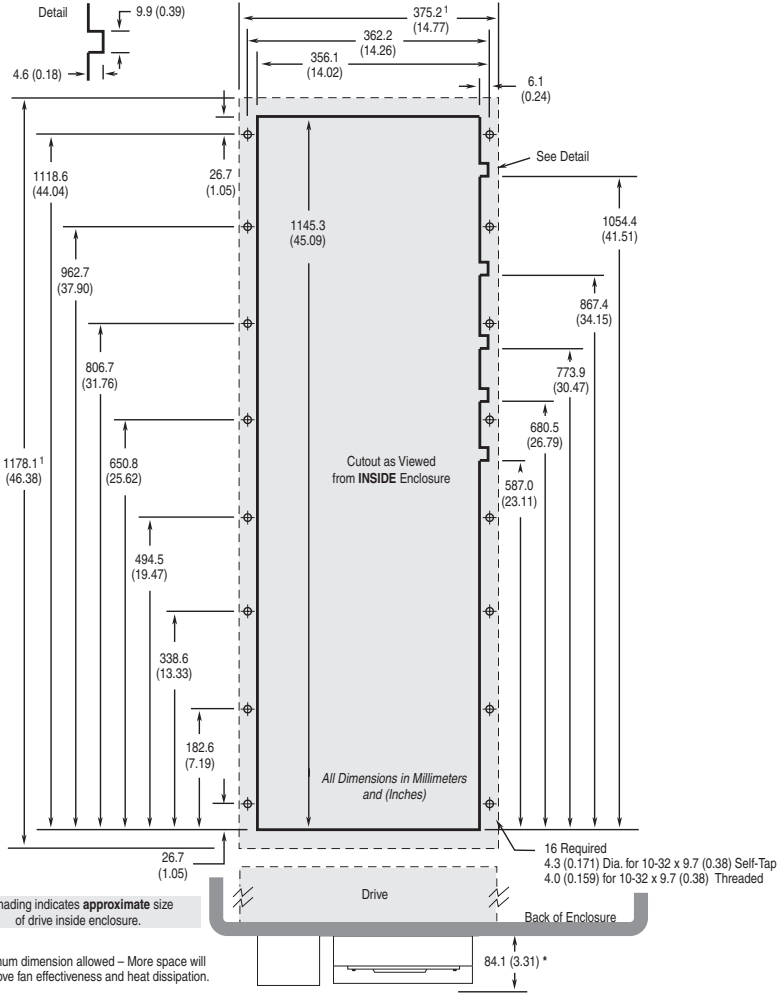
IP20, NEMA/UL Type 1

1336 IMPACT				PowerFlex 700				PowerFlex 700S			
Frame/HP	H mm	W mm	D mm	Frame / ND HP	H mm	W mm	D mm	Frame / ND HP	H mm	W mm	D mm
A1 / 0.5-1.5	290	216	160	0 / 1-7.55	336	110	200	1 / 1-15	336	135	200
A2 / 2-3	290	216	180	1 / 10-15	336	135	200	2 / 20-25	343	222	200
A3 / 5	290	216	207	2 / 20-25	343	222	200	3 / 30-50	518	222	200
A4 / 7.5-20	350	260	212	3 / 30-50	518	222	200	4 / 60	759	220	202
B / 7.5-30	476	276	225	4 / 60	759	220	202	5 / 75-100	645	308	275
C / 40-60	701	302	225	5 / 75-100	645	309	275	6 / 125-200	850	404	276
D / 60-150	1240	382	271	6 / 125-200	850	404	276	9 / 200-250	1150	480	363
E / 150-250	1499	511	424	7 / 250	1499	514	407	10 / 300-450	2275	597	633
F / 250-450	2286	762	635	8 / 300-400	2276	758	889	11 / 500-600	2275	797	622
G / 250-600	2324	762	635	8 / 450-500	2276	758	1016	12 / 700-900	2275	1196	633
H / 700-800	2324	1270	635	9 / 600	2276	758	1016	13 / 1000-1250	2275	1412-1600	619
				10 / 700	2276	1268	889	13 / 1000-1250	2275	1412-1600	619

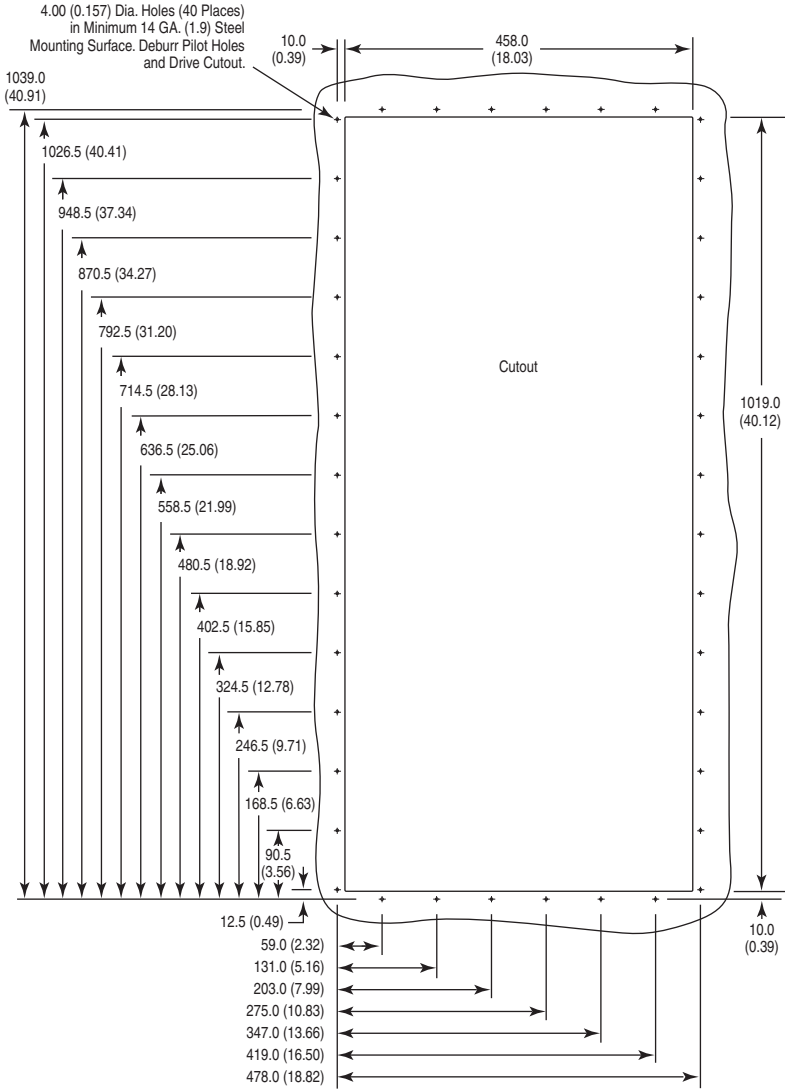
1336 Flange Mount Cutout - Frame C



1336 Flange Mount Cutout - Frame D

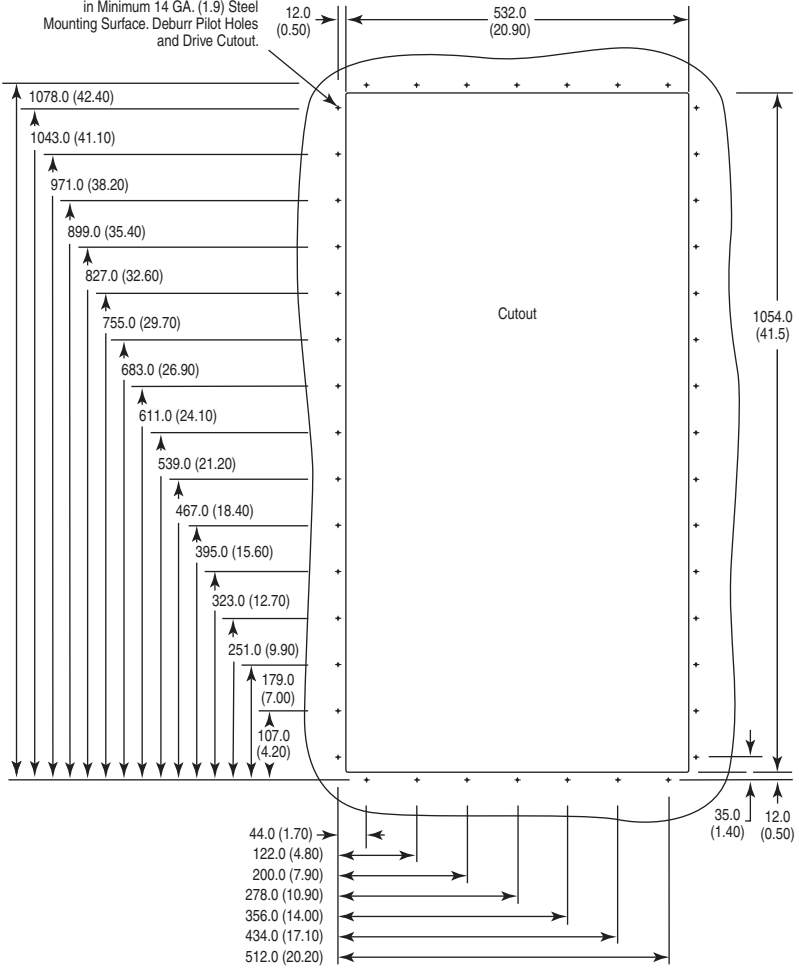


PowerFlex 700 Flange Mount Cutout - Frame 5



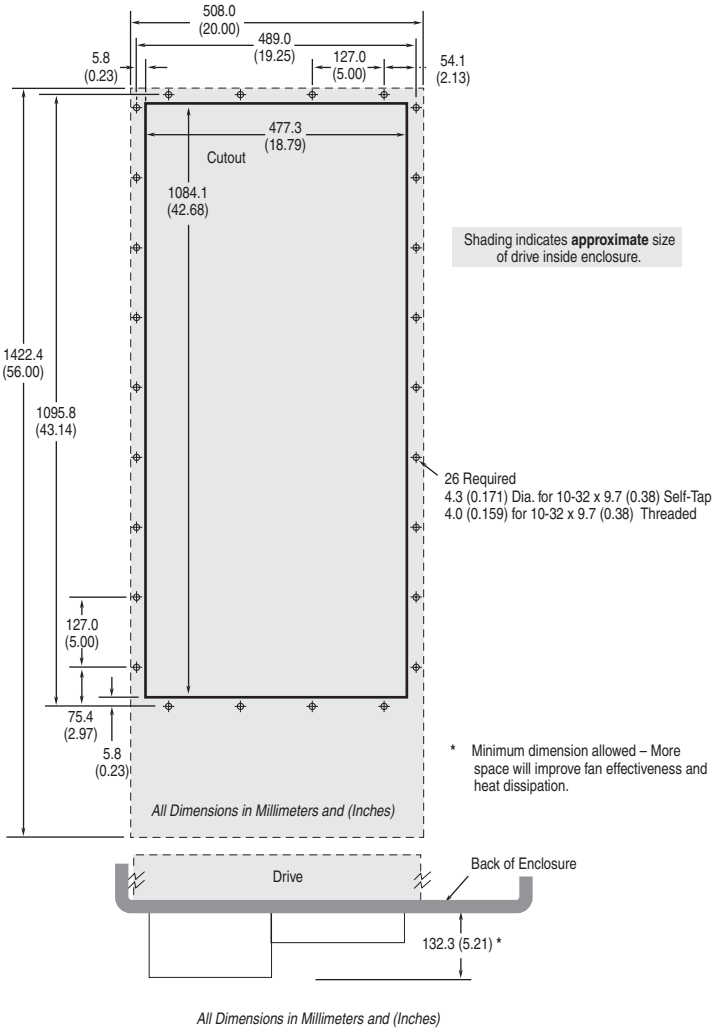
PowerFlex 700 Flange Mount Cutout - Frame 6

4.00 (0.157) Dia. Holes (44 Places)
in Minimum 14 GA. (1.9) Steel
Mounting Surface. Deburr Pilot Holes
and Drive Cutout.

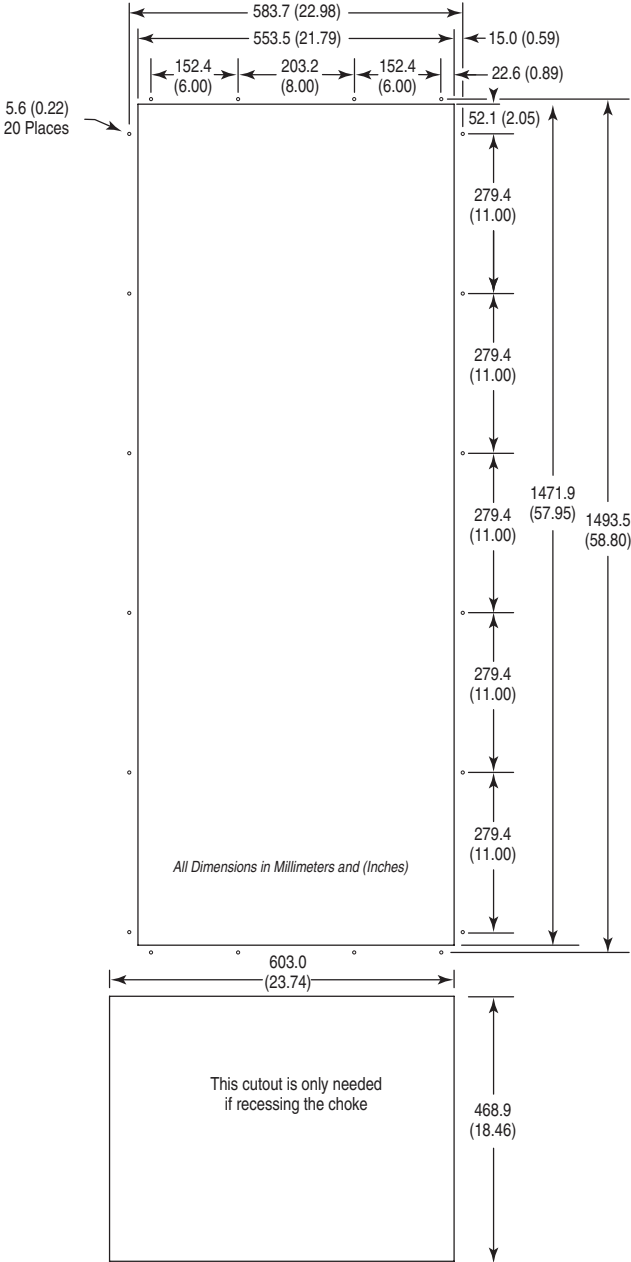


Note: Frame 7 cutout dimensions are the same as the 1336, Frame E.

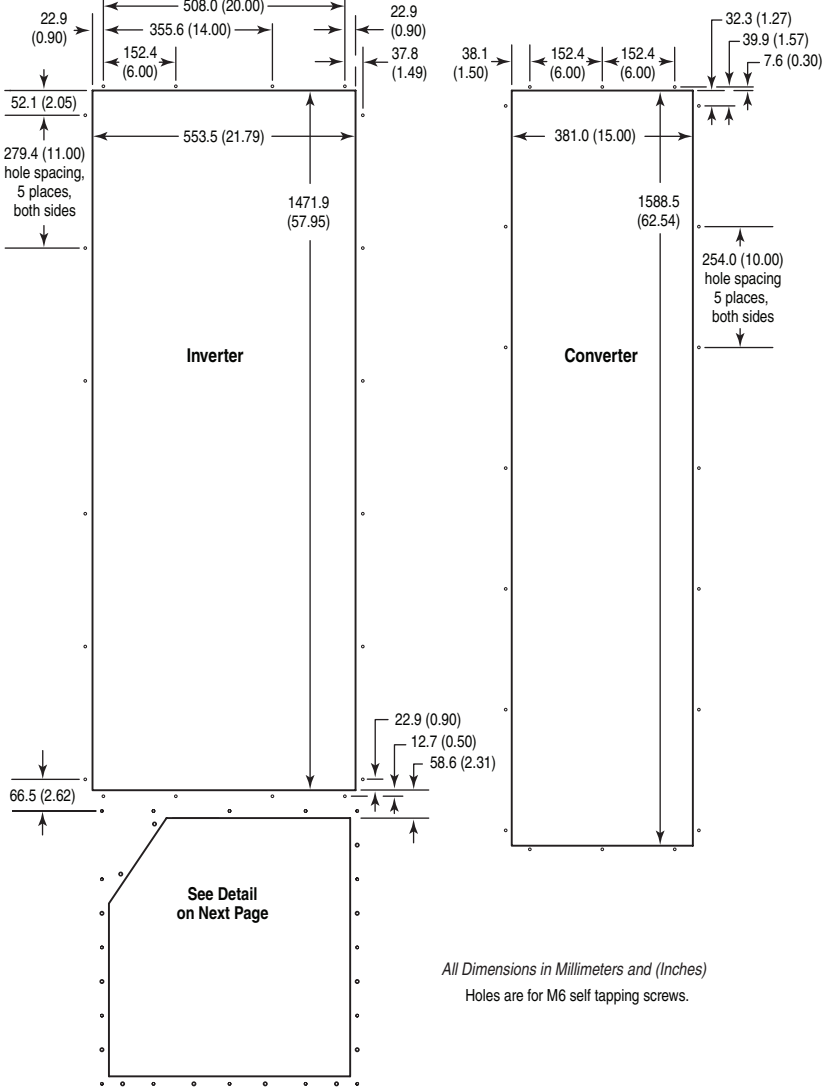
PowerFlex 700 Flange Mount Cutout - Frame 7



PowerFlex 700 Flange Mount Cutout - Frames 8 & 9

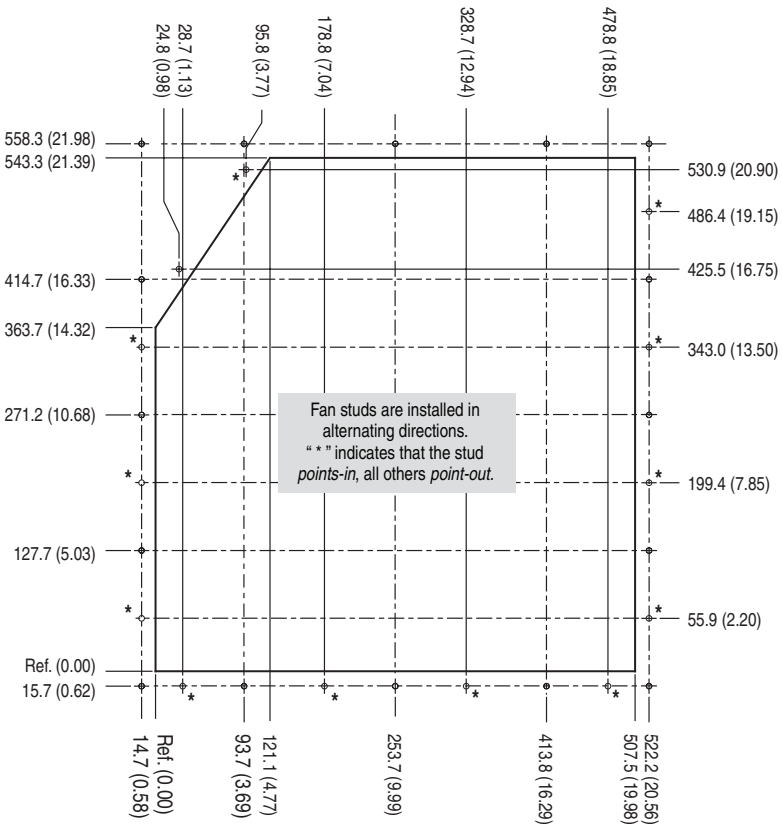


PowerFlex 700 Flange Mount Cutout - Frame 10



Important: Backplate and extension are a single piece. Drive chassis can be removed from backplate to mount in user supplied IP54, NEMA/UL Type 12 enclosure.

PowerFlex 700 Flange Mount Cutout - Frame 10 Detail



Important: Backplate and extension are a single piece. Drive chassis can be removed from backplate to mount in user supplied IP54, NEMA/UL Type 12 enclosure.

Terminal Comparison

Description	Terminal Designation		
	1336 IMPACT	PowerFlex 700	PowerFlex 700S
Input AC Line - R(L1)	R (L1)	R (L1)	R (L1)
Input AC Line - S(L2)	S (L2)	S (L2)	S (L2)
Input AC Line - T(L3)	T (L3)	T (L3)	T (L3)
Motor - U (T1)	U (T1)	U (T1)	U (T1)
Motor - V (T2)	V (T2)	V (T2)	V (T2)
Motor - W (T3)	W (T3)	W (T3)	W (T3)
Brake Resistor		BR1 (Fr 0-6)	BR1
Brake Resistor		BR2 (Fr 0-6)	BR2
DC Bus -	DC-	DC-	DC-
DC Bus +	DC+/BRK	DC+	DC+
DC Bus Inductor Connection			
DC Bus Inductor Connection			
Motor Ground	PE	PE \neq	PE
Drive Ground	PE	GRD/PE	GRD
Analog Input 1 Comm.	J7 (2)	IO TB-1	TB1-1
Analog Input 1 (+/-)	J7 (1)	IO TB-2	TB1-2
Shield	J7 (3)		TB1-3
Analog Input 2 Comm.	J7 (5)	IO TB-3	TB1-4
Analog Input 2 (+/-)	J7 (4)	IO TB-4	TB1-5
Analog Input 3 (NTC-) Comm.	J7 (8) 4-20 mA Only		TB1-6
Analog Input 3 (NTC+)	J7 (7) 4-20 mA Only		TB1-7
Shield	J7 (6)		TB1-8
Analog Output 1 (-)	J4 (6)	IO TB-6	TB1-9
Analog Output 1 (+)	J4 (5)	IO TB-7	TB1-10
Analog Common			
Analog Output 2 (-)	J4 (9)	IO TB-8	TB1-11
Analog Output 2 (+)	J4 (8)	IO TB-9	TB1-12
+10v Reference	J4 (1)	IO TB-22	TB1-13
Reference Common	J4 (2)	IO TB-5	TB1-14
-10V Reference	J4 (3)	IO TB-21	TB1-15
Encoder A	34	ENC TB-1	TB1-16
Encoder A (Not)	32	ENC TB-2	TB1-17
Encoder B	31	ENC TB-3	TB1-18
Encoder B (Not)	33	ENC TB-4	TB1-19
Encoder Z		ENC TB-5	TB1-20
Encoder Z (Not)		ENC TB-6	TB1-21
Encoder Reference (+)	35	ENC TB-7	TB1-22
Encoder Reference (-)	36	ENC TB-8	TB1-23
Encoder Shield	TE		TB1-24
24V DC Common (-)		IO TB-26	TB2-1
24V DC Source (+)		IO TB-24	TB2-2

Terminal Comparison *(continued)*

Description	Terminal Designation		
	1336 IMPACT	PowerFlex 700	PowerFlex 700S
Digital/Relay Output 1 (N.O.)	J10 (1)	IO TB-11	TB2-3
Digital/Relay Output 1 Comm.	J10 (2)	IO TB-12	TB2-4
Digital/Relay Output 1 (N.C.)	J10 (3)	IO TB-13	
Digital/Relay Output 2 (N.O.)	J10 (6)		TB2-5
Digital/Relay Output 2 Comm.	J10 (5)	IO TB-15	TB2-4
Digital/Relay Output 2 (N.C.)	J10 (4)	IO TB-14	
Digital/Relay Output 3 (N.C.)	J10 (7)		TB2-6
Digital/Relay Output 3 Comm.	J10 (8)	IO TB-15	TB2-7
Digital/Relay Output 3 (N.O.)	J10 (9)	IO TB-16	TB2-8
Digital/Relay Output 4 (N.C.)		IO TB-33 ⁽¹⁾	
Digital/Relay Output 4 Comm.		IO TB-34 ⁽¹⁾	
Digital/Relay Output 4 (N.O.)		IO TB-35 ⁽¹⁾	
Digital Input 1-3 Comm.	21, 25, 29	IO TB-25	TB2-9
Digital Input 1	19	IO TB-27	TB2-10
Digital Input 2	20	IO TB-28	TB2-11
Digital Input 3	22	IO TB-29	TB2-12
Digital Input 4-6 Comm.	25	IO TB-25	TB2-13
Digital Input 4	23	IO TB-30	TB2-14
Digital Input 5	24	IO TB-31	TB2-15
Digital Input 6	26	IO TB-32	TB2-16
Digital Input 7	27		
Digital Input 8	28		
Digital Input 9			
Digital Input 10			
48V Control Power Supply			
+24V User Output			
Drive Enable (Secure Disable Function)	30	Digital Input 6 can be configured	Any digital input can be configured as enable. Also, Safe-Off is available with Safe-Off/ Second Encoder option board.
HW PTC Input 1		IO TB-10	
HW PTC Input 2		IO TB-23	

⁽¹⁾ Dedicated fault output-Frames 7 - 10 only.

Communications

Communications Protocol	1336 IMPACT	PowerFlex 700	PowerFlex 700S
DF1	Yes	Yes	Yes
AS-i	No	No	No
BACnet	No	Yes	No
CANopen	No	Yes	Yes
CC-Link	No	No	No
ControlNet	Yes	Yes (Coax & Fiber)	Yes (Coax & Fiber)
Data Highway	No	No	No
DeviceNet	Yes	Yes	Yes
Ethernet	No	No	No
EtherNet/IP	Yes	Yes	Yes
FIP I/O	No	No	No
Foundation Fieldbus	No	No	No
Interbus	No	Yes	Yes
LonWorks	No	No	No
Metasys N2	Yes, 3rd Party	No	No
Modbus ASCII	Yes, 3rd Party	No	No
Modbus Plus	Yes, 3rd Party	No	No
Modbus RTU	Yes, 3rd Party	Yes	Yes
Modbus TCP/IP	No	Yes	Yes
PROFIBUS DP	Yes, 3rd Party	Yes	Yes
PROFINET	No	No	No
Remote I/O	Yes	Yes	Yes
SERCOS	No	No	No
Siemens P1	No	No	No
Uni-Telway	No	No	No
USB	Yes (with USB converter)	Yes (with USB converter)	Yes (with USB converter)

Software

Description	Software Feature	DriveTools SP/DriveExplorer
Software Versions	Full version	Yes
	'Lite' version	Yes (freeware)
	Pocket PC version	Yes
	Palm version	No
Connectivity	Serial Point-to-Point	Yes
	Serial Multi-drop	Yes
	Ethernet Direct	Yes
	ControlNet	Yes
	DeviceNet	Yes
	Profibus DP	No
	Bluetooth	Yes
	WiFi	Yes
Select Features	Other/Proprietary	Yes
	Offline capability	Yes
	Setup Wizards	Yes
	Diagram Views	Yes
	User-created Views	Yes
	I/O Terminal Configuration	No
	Control	Yes
	Oscilloscope/Graph	Yes
	Project Management	No
	Flash	Yes
	File Conversion Tool	Yes
	On-line Help	Yes
Multi-language	English only	
Used With		PowerFlex 7-Class, PowerFlex 4-Class, SMC Flex, 160, SCANport-based products

Notes

Support Information

Distributor Sticker Here

Rockwell Automation Office Sticker Here

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Applications, Including Energy Savings

<http://drivehq.ra.rockwell.com/abdrives/ApplicationsTest/FrontDoor.htm>