

Single-phase 230 V										
Frame			A					B		
VFD_____SAA			2A8MS21__		4A8MS21__		7A5MS21MN	7A5MS21MF	11AMS21__	
			<u>M</u> <u>N</u>	<u>M</u> <u>E</u>	<u>M</u> <u>N</u>	<u>M</u> <u>E</u>			<u>M</u> <u>N</u>	<u>M</u> <u>E</u>
Applicable Motor Output (kW)			0.4		0.75		1.5	1.5	2.2	
Applicable Motor Output (HP)			0.5		1		2	2	3	
Inverter Output	Heavy Duty	Rated Output Current (A)	1.1		1.8		2.9	2.9	4.2	
		Rated Output Current (A)	2.8		4.8		7.5	7.2	11	
		Carrier Frequency (kHz)	2 ~ 15 (default 4)							
	Normal Duty	Rated Output Current (A)	1.2		1.9		3.2	3.2	4.8	
		Rated Output Current (A)	3.2		5		8.5	8.5	12.5	
		Carrier Frequency (kHz)	2 ~ 15 (default 4)							
Input	Heavy Duty	Rated Output Current (A)	7.3		10.8		16.5	16.5	24.2	
	Normal Duty	Rated Output Current (A)	8.3		11.3		18.5	18.5	27.5	
	Rated Voltage / Frequency		1-phase AC 200 V~240 V, 50/60 Hz							
	Operating Voltage (V _{AC})		170 ~ 264 (-15% ~ +10%)							
	Mains Frequency Range (Hz)		47 ~ 63							
Net Weight (kg)			2.25	2.65	2.6	2.9	3.1	3.95	3.5	4.0
Cooling Method			Natural air cooling					Fan cooling		
EMC Filter			Optional	Built-in	Optional	Built-in	Optional	Built-in	Optional	Built-in
Protection Rating			IP66 / NEMA 4X							

3-phase 230 V									
Frame			A			B		C	
VFD_____SAA			2A8MS23MN	4A8MS23MN	7A5MS23MN	11AMS23MN	17AMS23NB	25AMS23MN	
Applicable Motor Output (kW)			0.4	0.75	1.5	2.2	3.7	5.5	
Applicable Motor Output (HP)			0.5	1	2	3	5	7.5	
Inverter Output	Heavy Duty	Rated Output Current (A)	1.1	1.8	2.9	4.2	6.5	9.5	
		Rated Output Current (A)	2.8	4.8	7.5	11	17	25	
		Carrier Frequency (kHz)	2~15 (default 4)						
	Normal Duty	Rated Output Current (A)	1.2	1.9	3.0	4.8	7.4	10.3	
		Rated Output Current (A)	3.2	5	8	12.5	19.5	27	
		Carrier Frequency (kHz)	2~15 (default 4)						
Input	Heavy Duty	Rated Output Current (A)	3.4	5.8	9.0	13.2	20.4	30	
	Normal Duty	Rated Output Current (A)	3.8	6.0	9.6	15	23.4	32.4	
	Rated Voltage/Frequency		3-phase AC 200 V~240 V · 50/60 Hz						
	Operating Voltage (V _{AC})		170~264 (-15%~+10%)						
	Mains Frequency Range (Hz)		47~63						
Net Weight (kg)			2.3	2.45	2.75	3.4	3.5	4.25	
Cooling Method			Natural air cooling			Fan cooling			
EMC Filter			Optional						
Protection Rating			IP66 / NEMA 4X						

3-phase 460 V

Frame			A						B			
VFD_____SAA			1A5MS43__		2A7MS43__		4A2MS43__		5A5MS43MN	5A5MS43MF	9A0MS43__	
			M N	M F	M N	M F	M N	M F			M N	M F
Applicable Motor Output (kW)			0.4		0.75		1.5		2.2	2.2	3.7	
Applicable Motor Output (HP)			0.5		1		2		3	3	5	
Inverter Output	Heavy Duty	Rated Output Current (A)	1.1		2.1		3.2		4.2	4.2	6.9	
		Rated Output Current (A)	1.5		2.7		4.2		5.5	5.5	9	
		Carrier Frequency (kHz)	2 ~ 15 (default 4)									
	Normal Duty	Rated Output Current (A)	1.4		2.3		3.5		5.0	5.0	8.0	
		Rated Output Current (A)	1.8		3		4.6		6.5	6.5	10.5	
		Carrier Frequency (kHz)	2 ~ 15 (default 4)									
Input	Heavy Duty	Rated Output Current (A)	2.1		3.7		5.8		6.1	6.1	9.9	
	Normal Duty	Rated Output Current (A)	2.5		4.2		6.4		7.2	7.2	11.6	
	Rated Voltage/Frequency		3-phase AC 380 V~480 V · 50/60 Hz									
	Operating Voltage (V _{AC})		323~528 (-15% ~ +10%)									
	Mains Frequency Range (Hz)		47~63									
Net Weight (kg)			2.35	2.65	2.6	2.8	2.8	3.1	3.6	3.8	3.45	3.95
Cooling Method			Natural air cooling						Fan cooling			
EMC Filter			Optional	Built-in	Optional	Built-in	Optional	Built-in	Optional	Built-in	Optional	Built-in
Protection Rating			IP66 / NEMA 4X									

3-phase 460 V

Frame			C			
VFD_____SAA			13AMS43__		17AMS43__	
			M N	M E	M N	M E
Applicable Motor Output (kW)			5.5		7.5	
Applicable Motor Output (HP)			7.5		10	
Inverter Output	Heavy Duty	Rated Output Current (A)	9.9		13	
		Rated Output Current (A)	13		17	
		Carrier Frequency (kHz)	2 ~ 15 (default 4)			
	Normal Duty	Rated Output Current (A)	12		15.6	
		Rated Output Current (A)	15.7		20.5	
		Carrier Frequency (kHz)	2 ~ 15 (default 4)			
Input	Heavy Duty	Rated Output Current (A)	14.3		18.7	
	Normal Duty	Rated Output Current (A)	17.3		22.3	
	Rated Voltage/Frequency		3-phase AC 380V ~480V · 50/60Hz			
	Operating Voltage (V _{AC})		323~528 (-15% ~ +10%)			
	Mains Frequency Range (Hz)		47~63			
Net Weight (kg)			4.25	4.95	4.25	5.05
Cooling Method			Fan cooling			
EMC Filter			Optional	Built-in	Optional	Built-in
Protection Rating			IP66 / NEMA 4X			

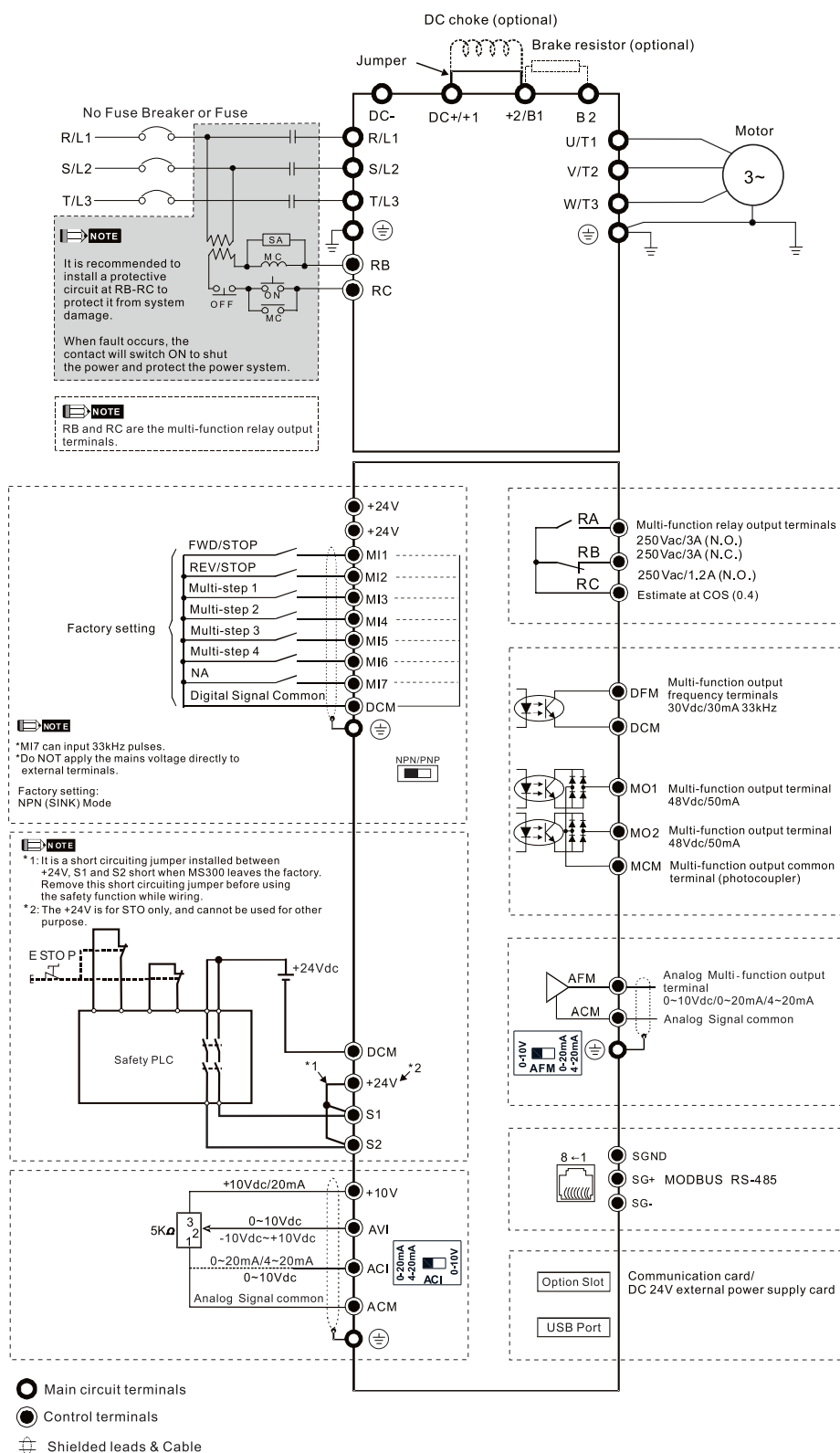
Control Functions	Control Methods	V/F, SVC, FOC Sensorless
	Applicant Motors	Induction motors (IM), interior permanent magnet (IPM) motors, and surface permanent magnet (SPM) motors
	Max. Output Frequency	Standard model: 599.00 Hz/High speed model: 1500.0 Hz (with derating, V/F control only)
	Starting Torque*	150%/3Hz (V/f, SVC control for IM, heavy duty) 100%/(1/20 of motor rated frequency) (SVC control for PM, heavy duty) 200%/0.5Hz (FOC Sensorless control for IM, heavy duty)
	Speed Control Range*	1:50 (V/f, SVC control for IM, heavy duty) 1:20 (SVC control for PM, heavy duty) 1:100 (FOC Sensorless control for IM, heavy duty)
	Overload Tolerance	Normal Duty (ND): 120% of rated output current for 60 seconds; 150% of rated output current for 3 seconds Heavy Duty (HD): 150% of rated output current for 60 seconds; 200% of rated output current for 3 seconds
	Frequency Setting Signal	0~+10V/-10V~+10V, 4~20mA/0~+10V, 1 pulse input (33kHz), 1 pulse output (33kHz)
	Main Control Functions	Multiple motor switches (max. 4 independent motor parameter settings), fast run, Deceleration Energy Back (DEB) function, wobble frequency function, fast deceleration function, master and auxiliary frequency source selectable, momentary power loss ride thru, speed search, over-torque detection, 16-step speed (max.), accel/decel time switch, S-curve accel/decel, 3-wire sequence, JOG frequency, upper/lower limits for frequency reference, DC injection braking at start and stop, 2 sets of PID controls, built-in PLC (2k steps), simple positioning function, Modbus integrated as standard
Protection Functions	Motor Protection	Overcurrent protection, overvoltage protection, over-temperature protection, phase failure protection
	Stall Prevention	Stall prevention during acceleration, deceleration and running independently
Accessories	Communication Cards	PROFIBUS DP, DeviceNet, Modbus TCP, EtherNet/IP, CANopen, EtherCAT
	External DC power supply	EMM-BPS01 (DC 24V power supply card)
Digital Controller		A removable keypad as standard
Certifications		UL, CE, RoHS, RCM, TUV, REACH

*Control accuracy may vary depending on the environment, application conditions, different motors or encoder. For details, please contact our company or your local distributor.

Operating Environment	Installation Location		IEC60364-1/IEC60664-1 Pollution degree 2, Indoor use only	
	Ambient Temperature (°C)	Operation	IP20/UL Open Type	-20 to 50 -20 to 60 (needs derating)
			IP40/NEMA 1/UL Type 1	-20 to 40 -20 to 50 (needs derating)
			IP66/NEMA 4X/UL Type 4X	
			Zero stacking Installation	
		Storage		-40 to 85
		Transportation		-20 to 70
	Rated Humidity	Operation		Max. 90%
		Storage/Transportation		Max. 95%
	Air Pressure (kPa)	Operation		86 ~ 106
		Storage/Transportation		70 ~ 106
	Pollution Level	Compliance to IEC60721-3-3, 3C2		
	Altitude	An altitude of 0 ~ 1000m for normal operation (derating is required for installation at an altitude above 1000 m)		
Vibration		Compliance to IEC 60068-2-6		
Shock		Compliance to IEC/EN 60068-2-27		

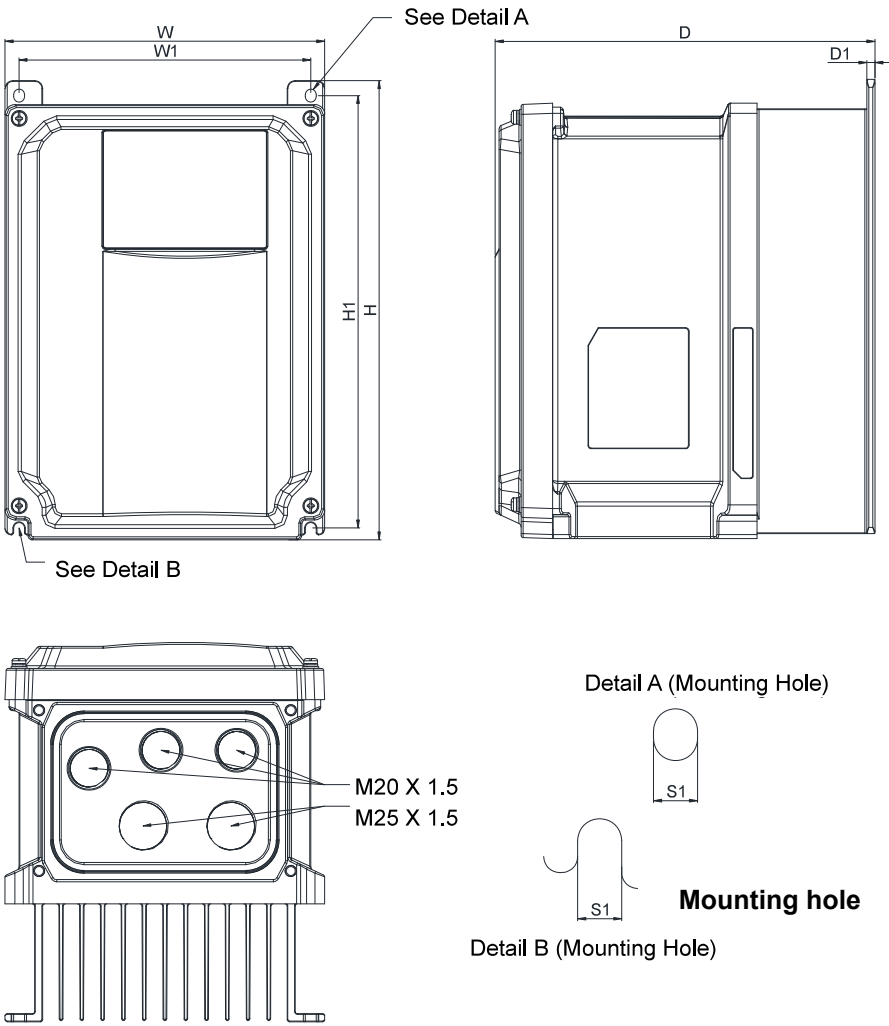
Please refer to MS300 user manual for more details.

Input: Single-phase/3-phase power



IP66 / NEMA 4X

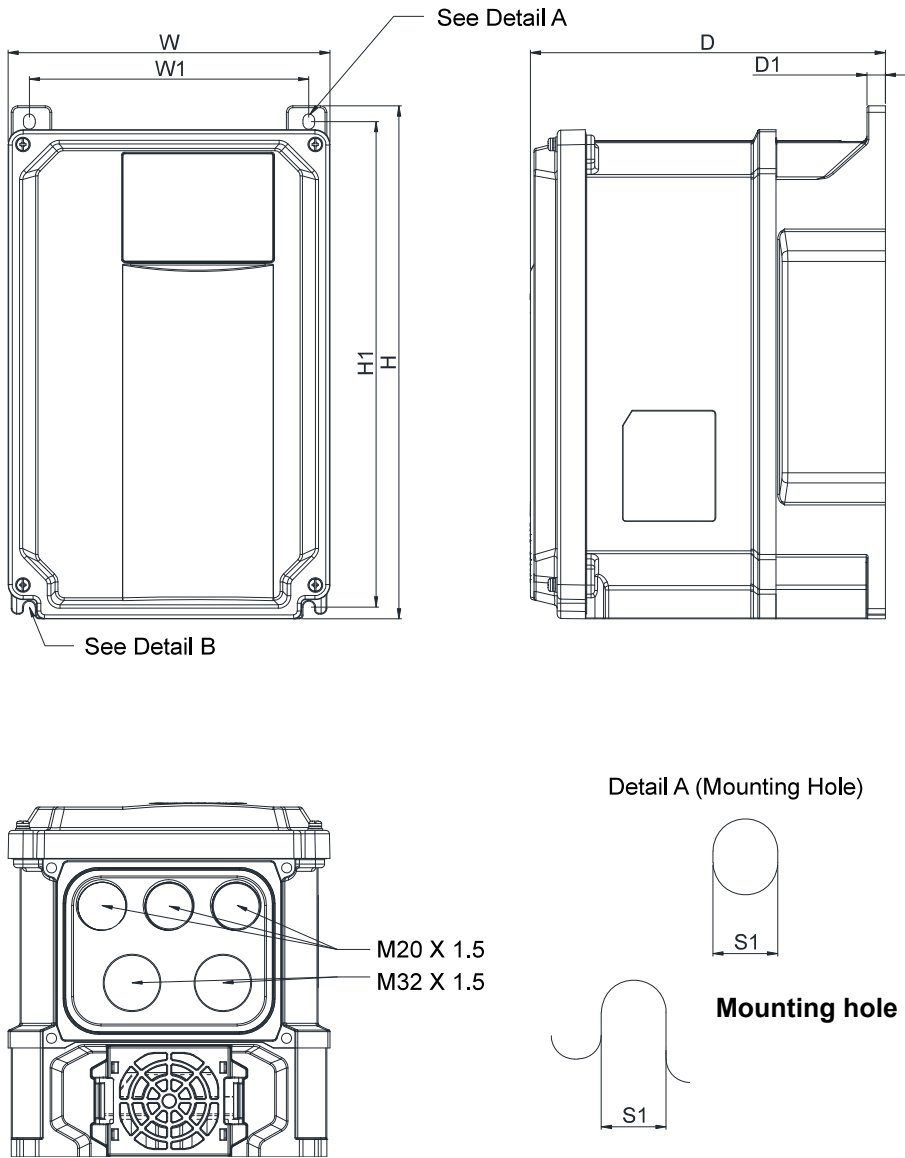
Frame A



MODEL			
FRAME A1		FRAME A2	FRAME A3
VFD2A8MS21MNSAA	VFD2A8MS23MNSAA	VFD7A5MS21MNSAA	VFD5A5MS43MNSAA
VFD1A5MS43MFSAA	VFD4A8MS21MFSAA	VFD7A5MS23MNSAA	
VFD2A7MS43MNSAA	VFD1A5MS43MNSAA	VFD4A2MS43MNSAA	
VFD2A8MS21MFSAA	VFD4A8MS23MNSAA	VFD4A2MS43MFSAA	
VFD4A8MS21MNSAA			
VFD2A7MS43MFSAA			

Frame		W	H	D	W1	H1	D1	S1
A1	mm	160.0	230.0	151.0	146.0	216.5	4.0	5.5
	inch	6.30	9.06	6.57	5.75	8.52	0.16	0.22
Frame		W	H	D	W1	H1	D1	S1
A2	mm	160.0	230.0	167.0	146.0	216.5	4.0	5.5
	inch	6.30	9.06	6.57	5.75	8.52	0.16	0.22
Frame		W	H	D	W1	H1	D1	S1
A3	mm	160.0	230.0	190.0	146.0	216.5	4.0	5.5
	inch	6.30	9.06	7.48	5.75	8.52	0.16	0.22

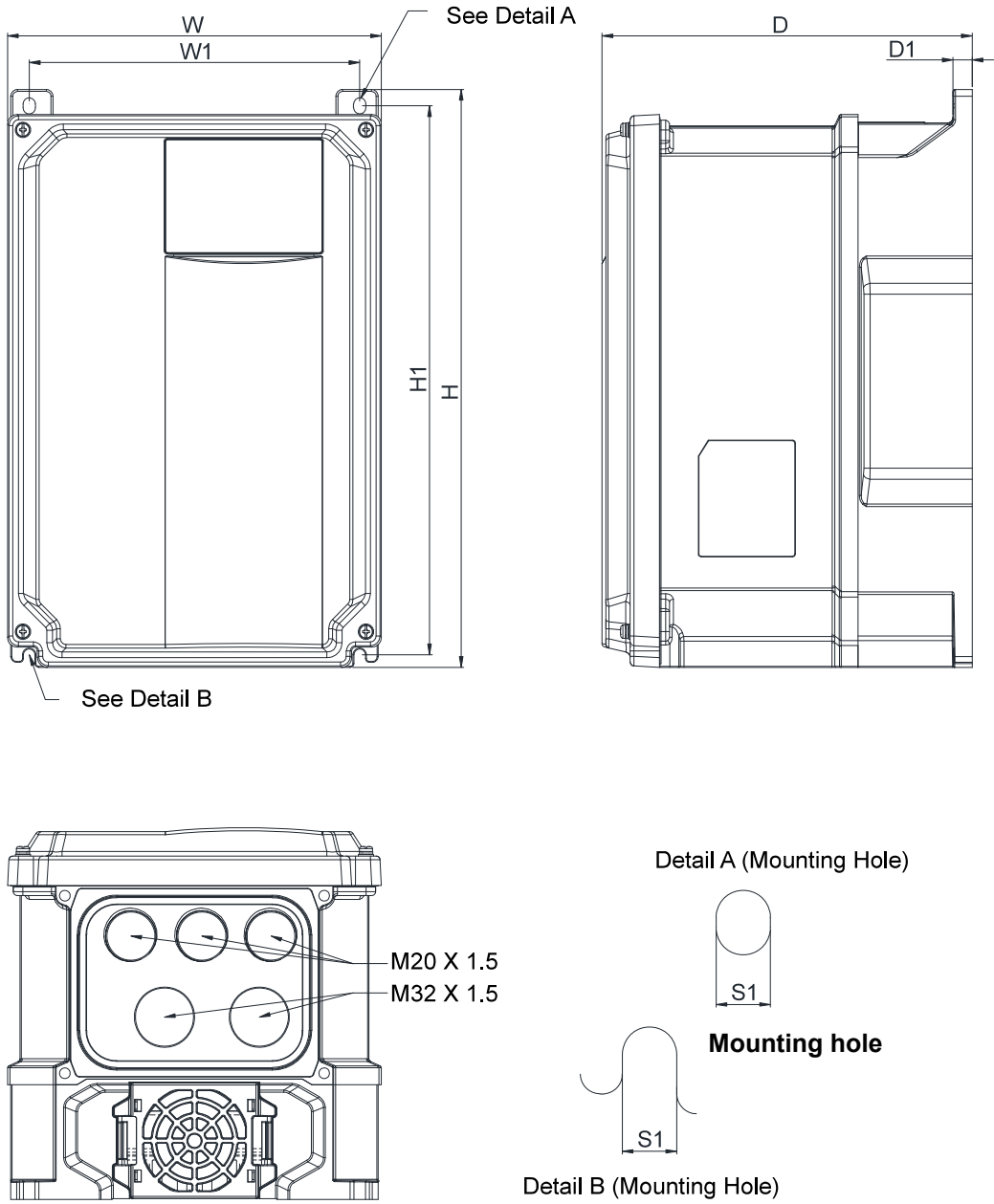
Frame B



MODEL				
FRAME B				
VFD7A5MS21MFSAA	VFD11AMS21MNSAA	VFD11AMS21MFSAA	VFD11AMS23MNSAA	
VFD5A5MS43MFSAA	VFD17AMS23MNSAA	VFD9A0MS43MNSAA	VFD9A0MS43MFSAA	

Frame		W	H	D	W1	H1	D1	S1
B	mm	175.0	280.0	193.0	152.0	266.0	10	6.4
	inch	6.89	11.02	7.60	5.98	10.43	0.39	0.25

Frame C



MODEL				
FRAME C				
VFD13AMS43MNSAA	VFD13AMS43MFSAA	VFD25AMS23MNSAA	VFD17AMS43MNSAA	
VFD17AMS43MFSAA				

Frame		W	H	D	W1	H1	D1	S1
C	mm	195.0	300.0	193.0	172.4	285.0	10	6.4
	inch	7.68	11.81	7.606	6.79	11.22	0.39	0.25