MEGMEET

Power Solutions

☐ Telecom Power ☐ Server Power ☐ Electric Power ☐ Medical Power ☐ Display Power ☐ LED Power
☐ Laser Power ☐ OA Power ☐ Flat Panel Power ☐ Bi-directional Inverters for Portable Power
☐ Solar & BESS & EV Charging Solution

Industry Automation

☐ Servo System ☐ Control System ☐ Elevator Controller ☐ Linear Motors ☐ IOT Solution ☐ Encoder
■ Variable Frequency Drive ☐ Internal Gear Pump

New Energy Solutions

☐ Multiplexed EV Charging System(OBC & DC-DC) ☐ Power Electronic Unit(2-in-1, 3-in-1)
☐ E-Compressor ☐ TV EDU ☐ Motor Control Unit ☐ Construction Machinery Controller
☐ Intelligent Active Hydraulic Suspension (i-AHS) ☐ Railway A/C Controller ☐ Railway VFD
☐ Light Electric Vehicle Controller ☐ Thermal Mgmt. System

Home Appliance Control Solutions

☐ Residential A/C Controller ☐ Commercial A/C Controller ☐ Heat Pump Controller
☐ Vehicle A/C Controller ☐ Solar A/C Controller ☐ Mini Compressor Controller
☐ Refrigerator Controller ☐ Washer/Dryer Controller ☐ Residential Microwave
☐ Industrial Microwave ☐ Smart Bidet ☐ RF Thawing System

Precision Connection

☐ FFC ☐ FPC ☐ Coaxial Cable ☐ CCS ☐ Litz Wire ☐ Peek Wire

SHENZHEN MEGMEET ELECTRICAL CO., LTD.
Add: 5th Floor, Block B, Unisplendour Information Harbor, Langshan Rd., Science & Technology Park, Nanshan District, Shenzhen, 518057, China

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MV810/820G1 (SP1) Series AC Drive for Solar Pumps

Global Leading Solution Provider In Electrical Automation

Contents

ABOUT MEGMEET

MEGMEET is a comprehensive solution provider for hardware and software R&D, production, sales, and service in the field of electrical automation. With power electronics and automation control at its core, MEGMEET's main businesses include Power Solutions, Industrial Automation, New Energy Solutions, Intelligent Equipment, Home Appliance Control Solutions, and Precision Connection.

MEGMEET has established a robust R&D, manufacturing, marketing, and service platform, with over 7,600 employees, including more than 2,800 R&D staff worldwide. MEGMEET's global presence includes R&D Centers in China, the United States, and Germany; Manufacturing Centers in Thailand, India, the United States, and China; and Regional Offices across North America, South America, Europe, Central Asia, Northeast Asia, Southeast Asia, India, the Middle East, Oceania, and Africa.

MEGMEET is committed to creating a cleaner living environment for all human beings through more efficient energy utilization and improved manufacturing efficiency. MEGMEET aims to become the world leader in electrical automation and achieve the goal of MEGMEET EVERYWHERE.

2800+ R&D Staff

10 R&D Centers

9 R&D Manufacturing Bases

7600+ Total Employees

1990+ No. of Patents & IP Rights

R&D CAPABILITY

Sustainable R&D Investment

R&D Investment

R&D Employees
>2800

Percentage of Total Employees
36%

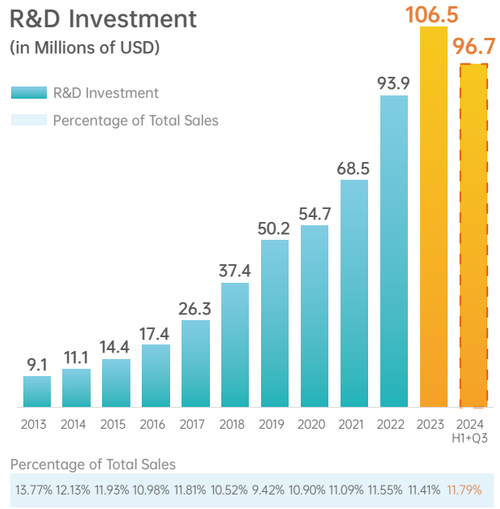
Percentage of Total Sales
>11%

Patents & Industry Standards

No. of Patents & IP Rights
1990+
400+ new in 2024

National & International standards
32
● 9 lead author

Industry Standards Drafted
38
● 28 lead author

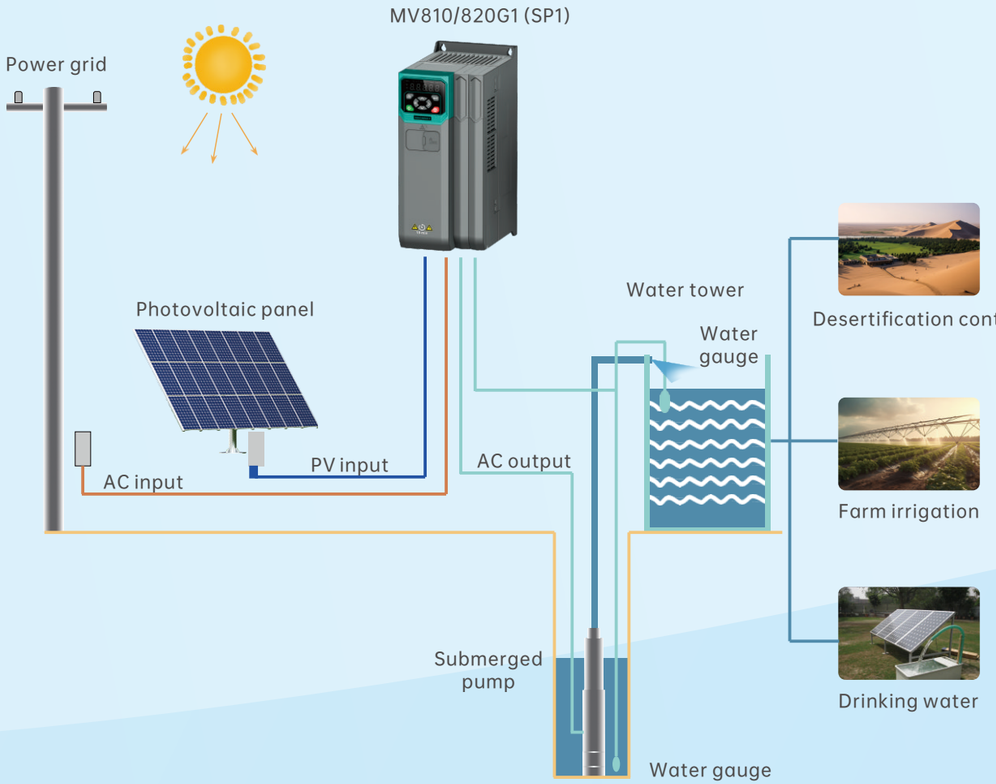


Testing Capabilities & Management System

MEGMEET's testing capabilities and management system have been certified by CNAS, TUV, UL-WTDP, and UL-CTF. MEGMEET's test results are recognized globally.

MV810/820G1 (SP1) Series AC Drive for Solar Pumps

MV810/820G1 (SP1) Series AC Drive for Solar Pumps, which takes different applications of solar pumps into consideration based on Megmeet's new-generation general purpose vector platform MV800, can convert DC of photovoltaic array to AC power and drive pumps to run in high efficiency for water supply in remote regions where power facilities are scarce.



Product Features

Photovoltaic Inverter MPPT

Active MPPT algorithm, with efficiency up to 99%

Integrated Control/Drive

Suitable for asynchronous, PMSM and BLDC motors

Electromagnetic Compatibility

Built-in EMC filter, reducing interference

DC & AC

Fit for both DC input and AC input, with automatic switchover

Automatic Hibernation & Wakeup

Automatic hibernation & wakeup based on sunlight intensity, requiring no manual operation

Level Control

Dry-running protection, and level detection

Automatic Recording

Total running time, total power generated and total water pumped

Simple Operation

24-hour work unattended
Remote start & stop (optional)

Product Applications

MV810/820G1 (SP1) is widely used for drinking water supply, field irrigation, urban gardening, desertification control, livestock farming, and so on.

Product Model

MV810G 1 - 4 T 5.5 (SP1)

1 2 3 4 5 6

1 Product series

MV810G: MV810 series
MV820G: MV820 series

2 Product iteration

1: First-Generation

3 Input voltage class

2: Single/Three-phase
220 V or DC 310 V
4: Three-phase
380 V or DC 540 V

4 Input voltage phase

S: Single-phase
T: Three-phase

5 Rated output power

5.5: 5.5 kW

6 Industry

SP1: For solar pumps

Model Selection

Enclosure	Product model	Rated input current (A)		Rated output current (A)		Rated output power (kW)		Fan's air volume (m^3/min)
		HD	ND	HD	ND	HD	ND	
B	MV810G1-2S0.4(SP1)	5.3	/	2.4	/	0.4	/	0.4
	MV810G1-2S0.75(SP1)	10.4	/	4.2	/	0.75	/	0.4
	MV810G1-2S1.5(SP1)	16.2	/	7.5	/	1.5	/	0.48
	MV810G1-2S2.2(SP1)	23.0	/	9.4	/	2.2	/	0.48
	MV810G1-4T0.75(SP1)	3.5	/	2.7	/	0.75	/	0.4
	MV810G1-4T1.5(SP1)	5.1	/	4.2	/	1.5	/	0.4
	MV810G1-4T2.2(SP1)	5.8	/	5.6	/	2.2	/	0.48
	MV810G1-4T3.7(SP1)	10.5	/	9.4	/	3.7	/	0.48
C	MV810G1-2T3.7(SP1)	21.3	/	17.0	/	3.7	/	0.80
	MV810G1-4T5.5(SP1)	14.5	/	13.0	/	5.5	/	0.80
	MV810G1-4T7.5(SP1)	20.5	/	17.0	/	7.5	/	0.80
D	MV810G1-2T5.5(SP1)	32.0	/	25.0	/	5.5	/	1.8
	MV810G1-2T7.5(SP1)	41.0	/	32.0	/	7.5	/	1.8
	MV810G1-4T11(SP1)	26.0	/	25.0	/	11.0	/	1.8
	MV810G1-4T15(SP1)	35.0	/	32.0	/	15.0	/	1.8
E	MV810G1-4T18.5(SP1)	49.0	58.0	37.0	45.0	18.5	22.0	4.0
	MV810G1-4T22(SP1)	58.0	62.0	45.0	60.0	22.0	30.0	4.0
F	MV810G1-4T30(SP1)	62.0	76.0	60.0	75.0	30.0	37.0	5.8
	MV810G1-4T37(SP1)	76.0	92.0	75.0	90.0	37.0	45.0	5.8
G	MV810G1-4T45(SP1)	92.0	113.0	90.0	110.0	45.0	55.0	14.42
	MV810G1-4T55(SP1)	113.0	157.0	110.0	152.0	55.0	75.0	14.42
	MV810G1-4T75(SP1)	157.0	180.0	152.0	176.0	75.0	90.0	14.42
H	MV820G1-4T90(SP1)	180.0	214.0	176.0	210.0	90.0	110.0	14.42
	MV820G1-4T110(SP1)	214.0	256.0	210.0	253.0	110.0	132.0	14.42
I	MV820G1-4T132(SP1)	256.0	307.0	253.0	304.0	132.0	160.0	21.48
	MV820G1-4T160(SP1)	307.0	330.0	304.0	340.0	160.0	185.0	21.48
J	MV820G1-4T185(SP1)	330.0	368.0	340.0	380.0	185.0	200.0	21.48
	MV820G1-4T200(SP1)	368.0	410.0	380.0	426.0	200.0	220.0	21.48
	MV820G1-4T220(SP1)	410.0	440.0	426.0	465.0	220.0	250.0	21.48

Electrical Specifications

Electrical specifications for AC 220 V or DC 310 V products				
Item / Model	Recommended solar array power (kWP)	Max. input DC current (A)	Output current (A)	Suitable motor (kW)
MV810G1-2S0.4(SP1)	0.6	4.5	2.4	0.37/0.4
MV810G1-2S0.75(SP1)	1.1	7.5	4.2	0.75
MV810G1-2S1.5(SP1)	2.25	10.0	7.5	1.5
MV810G1-2S2.2(SP1)	3.3	18.0	9.4	2.2
MV810G1-2S3.7(SP1)	11.7	18.0	17.0	3.7/4.0
MV810G1-2T5.5(SP1)	17.3	26.5	25.0	5.5
MV810G1-2T7.5(SP1)	22.0	33.5	32.0	7.5

Input specifications		
Photovoltaic input	Max. input DC voltage	450 VDC
	Recommended Voc voltage range	360 to 430 VDC
	Recommended MPPT voltage range	250 to 350 VDC
	Startup voltage range	230 to 450 VDC
Power grid or backup power input	Input voltage AC	2S/2T models: single/three-phase 220 V to 240 V; continuous fluctuation of voltage ±10%; transient fluctuation -15% to +10%

Output specifications	
Rated output voltage AC	Three-phase 220 V
Output frequency range	0 to 599.00 Hz; default: 0 to 50.00 Hz

Protection	
Built-in protection	Lightning protection, overcurrent, overvoltage, output phase loss, underload, undervoltage, short circuit, overheat, pump dry running protection and so on

Electrical specifications for AC 380 V or DC 540 V products						
Model	Recommended solar array power (kWP)	Max. input DC current (A)	Output current (A)		Suitable motor (kW)	
			HD	ND	HD	ND
MV810G1-4T0.75(SP1)	1.5	3.4	2.7	/	0.75	/
MV810G1-4T1.5(SP1)	3.0	5.0	4.2	/	1.5	/
MV810G1-4T2.2(SP1)	4.0	5.8	5.6	/	2.2	/
MV810G1-4T3.7(SP1)	6.0	11.0	9.4	/	3.7/4.0	/
MV810G1-4T5.5(SP1)	8.9	14.6	13.0	/	5.5	/
MV810G1-4T7.5(SP1)	11.0	20.5	17.0	/	7.5	/
MV810G1-4T11(SP1)	17.0	26.0	25.0	/	11.0	/
MV810G1-4T15(SP1)	21.0	35.0	32.0	/	15.0	/
MV810G1-4T18.5(SP1)	24.0	46.0	37.0	45.0	18.5	22.0
MV810G1-4T22(SP1)	30.0	62.0	45.0	60.0	22.0	30.0
MV810G1-4T30(SP1)	40.0	76.0	60.0	75.0	30.0	37.0
MV810G1-4T37(SP1)	57.0	92.0	75.0	90.0	37.0	45.0
MV810G1-4T45(SP1)	69.0	113.0	90.0	110.0	45.0	55.0
MV810G1-4T55(SP1)	85.0	154.0	110.0	152.0	55.0	75.0
MV810G1-4T75(SP1)	114.0	184.0	152.0	176.0	75.0	90.0
MV820G1-4T90(SP1)	134.0	225.0	176.0	210.0	90.0	110.0
MV820G1-4T110(SP1)	160.0	269.0	210.0	253.0	110.0	132.0
MV820G1-4T132(SP1)	192.0	327.0	253.0	304.0	132.0	160.0
MV820G1-4T160(SP1)	231.0	378.0	304.0	340.0	160.0	185.0
MV820G1-4T185(SP1)	240.0	408.0	340.0	380.0	185.0	200.0
MV820G1-4T200(SP1)	245.0	449.0	380.0	426.0	200.0	220.0
MV820G1-4T220(SP1)	250.0	510.0	426.0	465.0	220.0	250.0

Input specifications		
Photovoltaic input	Max. input DC voltage	900 VDC
	Recommended Voc voltage range	600 to 850 VDC
	Recommended MPPT voltage range	450 to 600 VDC
	Startup voltage range	230 to 800 VDC
Power grid or backup power input	Input voltage AC	4T models: three-phase 380 V to 480 V; continuous fluctuation of voltage ±10%; transient fluctuation -15% to +10%

Output specifications	
Rated output voltage AC	Three-phase 380 V
Output frequency range	0 to 599.00 Hz; default: 0 to 50.00 Hz

Protection	
Built-in protection	Lightning protection, overcurrent, overvoltage, output phase loss, underload, undervoltage, short circuit, overheat, pump dry-running protection and so on

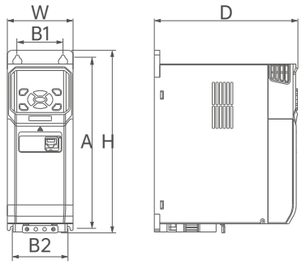
Technical Specifications

Power input	
Rated voltage (V)	2S/2T models: single/three-phase 220 V to 240 V; continuous fluctuation of voltage ±10%, transient fluctuation -15% to +10%, that is, 187 V to 264 V; voltage unbalance rate < 3%, distortion rate in compliance with IEC 61800-2 4T models: three-phase 380 V to 480 V; continuous fluctuation of voltage ± 10%, transient fluctuation -15% to +10%, that is, 323 V to 528 V; voltage unbalance rate < 3%, distortion rate in compliance with IEC 61800-2
Rated input current (A)	Refer to Table 1-1 of the complete version of user manual
Rated frequency (Hz)	50 Hz / 60 Hz, fluctuation range ±2 Hz
Power output	
Rated output power (kW)	Refer to Table 1-1 of the complete version of user manual
Rated output current (A)	Refer to Table 1-1 of the complete version of user manual
Output voltage (V)	Three-phase output under rated input conditions, 0 to rated input voltage, deviation less than ±3%
Output frequency (Hz)	V/F: 0.00 to 599.00 Hz, unit: 0.01 Hz. Vector control: 0 to 599.00 Hz
Overload capacity	HD: 1 min for 150% rated current, 6 s for 180%, 1 s for 200% ND: 1 min for 110% rated current
Running control features	
Control mode	Flux vector control without PG, V/F control
Max. output frequency	V/F control: 599 Hz, others: 599 Hz
Speed regulation range	1:200 (flux vector control without PG)
Speed control accuracy	±0.5% (flux vector control without PG)
Speed fluctuation	±0.3% (flux vector control without PG)
Torque response	< 20 ms (flux vector control without PG)
Torque control	Torque control accuracy for flux vector control without PG ±5% (above 5 Hz for asynchronous motors, above 10 Hz for synchronous motors)
Startup torque	0.25 Hz 150% (flux vector control without PG)
Product functions	
Major functions	Speed tracking, over-torque/under-torque detection, torque limit, multi-speed running, switchover of multiple acceleration/deceleration times, auto-tuning, S-curve acceleration/deceleration, slip compensation, fan speed control, jump frequency, energy-saving operation, PID regulation, hibernation, power dip ride-through, Modbus communication, torque control, switchover between torque control and speed control, automatic restart, DC braking, dynamic braking; simple PLC, AVR, 2 sets of motor parameters; fieldbus communication; MPPT, hibernation & wakeup based on light intensity, hibernation based on high water level and other functions customized for solar pumps
Basic frequency	0.01 Hz to 599.00 Hz
Startup frequency	0.00 Hz to 50.00 Hz
Frequency setting method	Digital panel and AI: AI1/AI2, terminal pulse HDI. Simple PLC, multiple PLC stages, host controller communication, PID control reference, and fieldbus communication

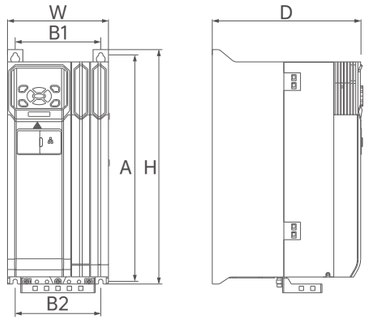
Product functions	
Acceleration/ Deceleration time	0.1 to 6000.0, unit: 0.1 s
Dynamic braking capacity	Built-in braking unit for 110 kW and below of MV810/820G1 (SP1), with braking ratio 0.0 to 100.0%
DC braking capacity	Start frequency: 0.00 Hz to 599.00 Hz; braking time: 0.1 s to 50.0 s; braking current: 0% to 100%, according to the nominal current of the drive
Terminal functions	Refer to the terminal function part in the complete version of user manual
Protection functions	
Refer to the protection function part in the complete version of user manual	
Others	
Efficiency	⩾93% (7.5 kW and below); ⩾95% (15 kW and below)
Installation method	Wall-mounted: vertically mounted on a solid base indoors, with at least 100 mm space for air inlet and outlet, and at least 10 mm for both the left side and the right side (excluding enclosure A/B), air cooling.
Protection degree	IP20
Cooling method	Air cooling
Environment	
Operating site	Indoors without direct sunlight, dust, corrosive gas, combustible gas, oil mist, water vapor, drip or salt
Altitude	Below 1000 m: derating not required; above 1000 m: derated by 1% for every increase of 100 m; maximum: 3000 m
Ambient temperature	-10℃ to +50℃, air temperature change < 0.5℃/min (derating required if the ambient temperature is above 40℃)
Humidity	5% to 95% RH, non-condensing, no rain, snow and hail, solar radiation < 700 W/m^2, air pressure 70 to 106 kPa
Vibration	Sine vibration: 2 to 9 Hz, displacement 1.5 mm; 9 to 200 Hz, 5.9 m/s^2 (0.6 g)
Storage temperature	-30℃ to +70℃, air temperature range < 1℃/min, maximum 60℃ for long-time storage, 60℃ to 70℃ only for short-time storage

Product Dimensions

Enclosure B

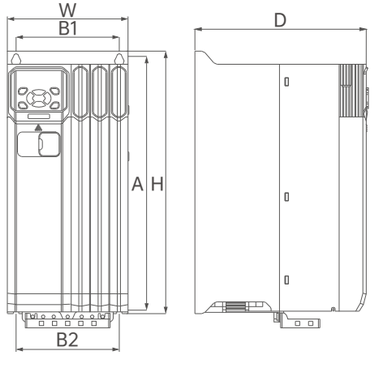


Enclosure C

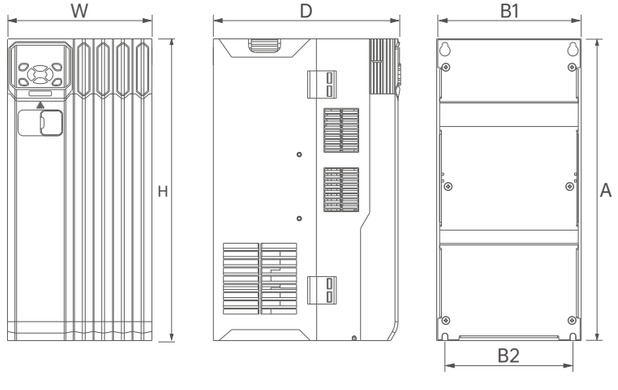


Enclosure	AC drive model	A (mm)	B1 (mm)	B2 (mm)	H (mm)	W (mm)	D (mm)	Hole diameter (mm)
B	MV810G1-2S0.4(SP1) MV810G1-2S0.75(SP1) MV810G1-2S1.5(SP1) MV810G1-2S2.2(SP1) MV810G1-4T0.75(SP1) MV810G1-4T1.5(SP1) MV810G1-4T2.2(SP1) MV810G1-4T3.7(SP1)	187.5	50	61	200	72	162.2	4.5
C	MV810G1-2T3.7(SP1) MV810G1-4T5.5(SP1) MV810G1-4T7.5(SP1)	259	97.5	97.5	267	115	171	5

Enclosure D

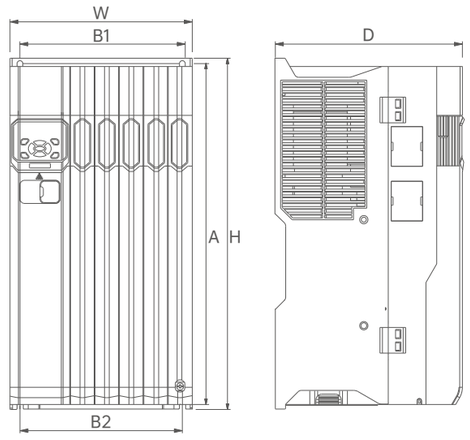


Enclosure E

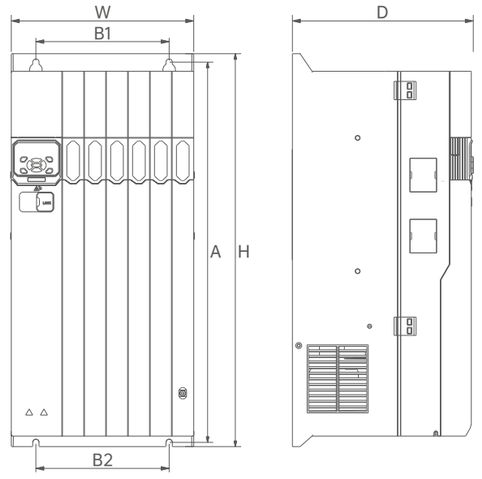


Enclosure	AC drive model	A (mm)	B1 (mm)	B2 (mm)	H (mm)	W (mm)	D (mm)	Hole diameter (mm)
D	MV810G1-2T5.5(SP1) MV810G1-2T7.5(SP1) MV810G1-4T11(SP1) MV810G1-4T15(SP1)	290	118	118	300	138	195.92	6
E	MV810G1-4T18.5(SP1) MV810G1-4T22(SP1)	318	140	140	330	158	204.8	6

Enclosure F

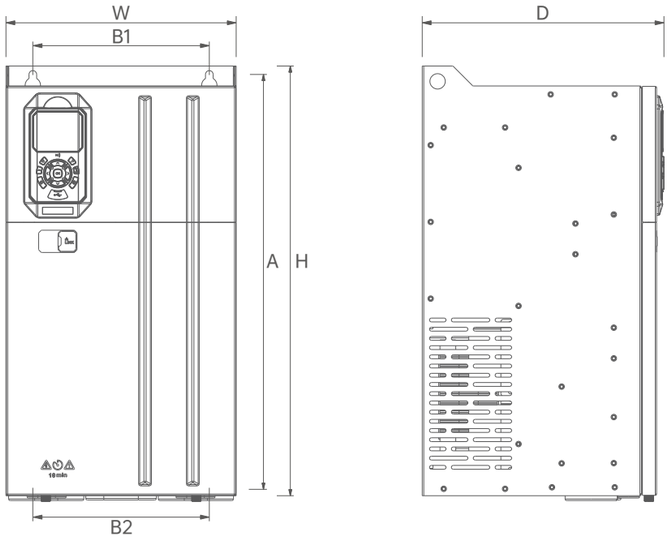


Enclosure G



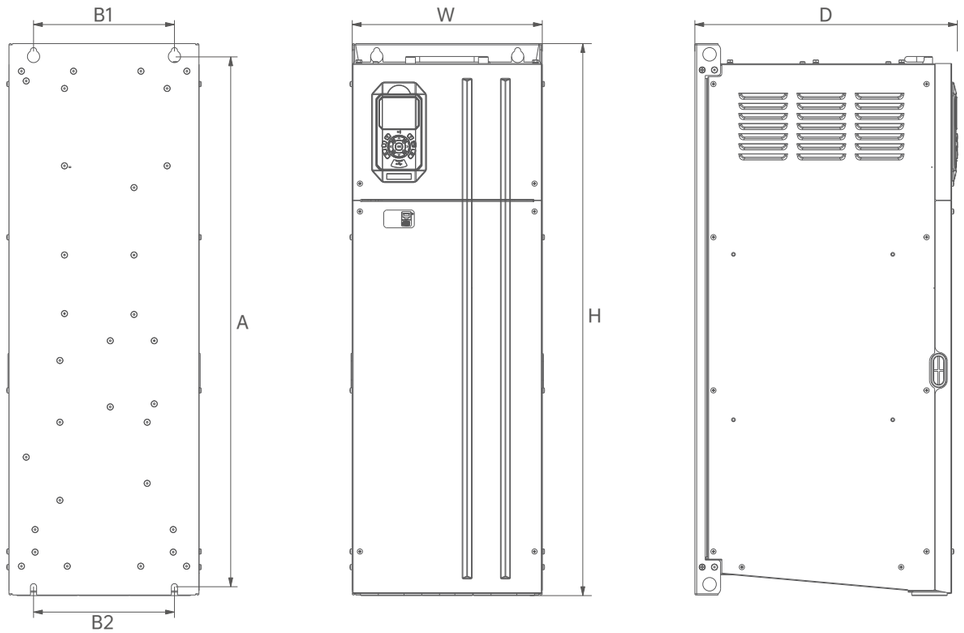
Enclosure	AC drive model	A (mm)	B1 (mm)	B2 (mm)	H (mm)	W (mm)	D (mm)	Hole diameter (mm)
F	MV810G1-4T30(SP1) MV810G1-4T37(SP1)	412	196	196	424	220	229	7
G	MV810G1-4T45(SP1) MV810G1-4T55(SP1) MV810G1-4T75(SP1)	542	190	190	560	260	255	9

Enclosure H



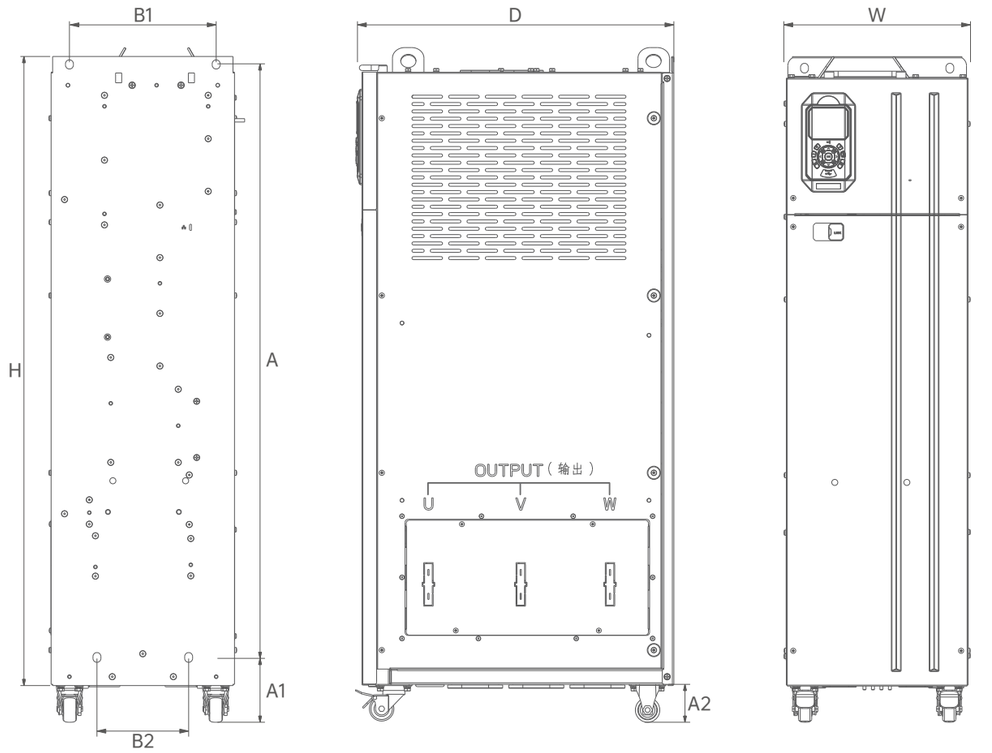
Enclosure	AC drive model	A (mm)	B1 (mm)	B2 (mm)	H (mm)	W (mm)	D (mm)	Hole diameter (mm)
H	MV820G1-4T90(SP1) MV820G1-4T110(SP1)	539	230	230	560	300	300	10

Enclosure I



Enclosure	AC drive model	A (mm)	B1 (mm)	B2 (mm)	H (mm)	W (mm)	D (mm)	Hole diameter (mm)
I	MV820G1-4T132(SP1) MV820G1-4T160(SP1)	875	230	230	900	310	429	10

Enclosure J



Enclosure	AC drive model	A (mm)	A1 (mm)	A2 (mm)	B1 (mm)	B2 (mm)	H (mm)	W (mm)	D (mm)
J	MV820G1-4T185(SP1) MV820G1-4T200(SP1) MV820G1-4T220(SP1)	970	106	62	240	150	1029	300	520