

MV520 Series

Compact General-Purpose
AC Drive



Power Solutions

- ☐ Telecom Power ☐ Medical Power ☐ Display Power ☐ Enclosed Power ☐ LED Power
- ☐ Laser Power ☐ OA Power ☐ Electric Power ☐ Datacenter and Networking Power Solutions
- ☐ Solar & BESS & EV Charging Solution ☐ Bi-directional Inverters for Portable Power

Industrial Automation

- ☐ Servo System ☐ Control System ☐ Elevator Controller ☐ Linear Motors ☐ IoT Solution ☐ Encoder
- ☒ Variable Frequency Drive ☐ Internal Gear Pump

eMobility & EV Infrastructure

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

Intelligent Equipment

- ☐ Intelligent Welding ☐ Electric Submersible-Progressing Cavity Pump
- ☐ Industrial Microwave ☐ Polysilicon Water Quenching Equipment
- ☐ Automatic Car Washing Machine ☐ Intelligent Lifting Devices

Consumer and Lifestyle Electronics

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

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About Us

MEGMEET is a \$1.2B global power and energy company specializing in high-efficiency power solutions for datacenters, eMobility, healthcare, industrial automation and renewable energy. With R&D, manufacturing facilities and global operations across North America, India, Thailand, China and Germany, MEGMEET is Engineered to Empower™ the future of AC drives.



21%
YoY Revenue Growth



10
R&D Centers



9
Manufacturing Centers



23%
R&D Staff



13,000+
Total Employees



1,990+
No. of Patents & IP Rights

MV520 Series Compact General-Purpose AC Drive

MV520 series compact general-purpose AC drive is a new generation of low-power drive developed by Megmeet. With its exquisite design, compact structure, and support for rail mounting, it is more suitable for the spatial layout of narrow electrical cabinets. The dual Ethernet port design supports standard Modbus/CANopen bus, making it easier to network multiple units. It supports integrated speed/torque control for asynchronous/permanent magnet synchronous motors and is widely used in industries such as woodworking, logistics, food, textiles, cable, printing and packaging.



**Compact
and User-Friendly**



**Excellent
Performance**



**Stable
and Reliable**



Product Overview

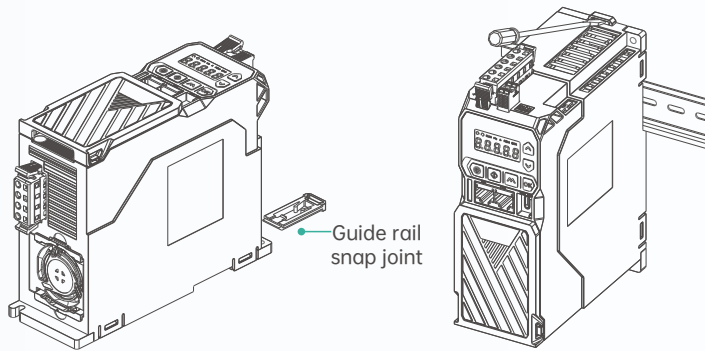


Product Features



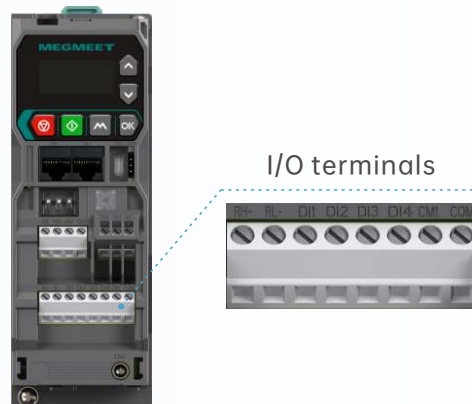
Compact and user-friendly

- The guide rail design supports compact installation, making the drive more suitable for narrow electrical cabinets.

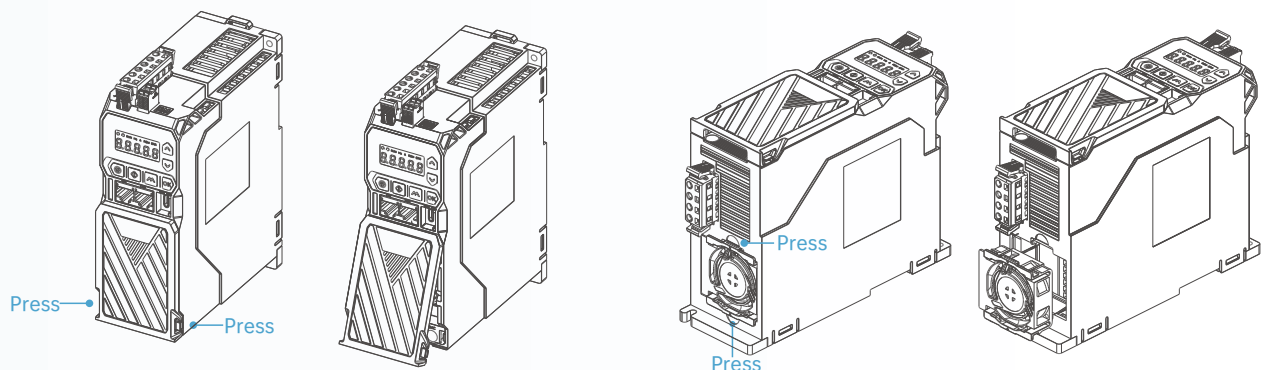


Compact installation

- Main circuit terminals pluggable with a spring, and control circuit terminals designed at a 45-degree upward angle for easier wiring



- Screwless cover plate and detachable fan, user-friendly and easy to maintain



Dust-proof plate,
secured by spring snap fits

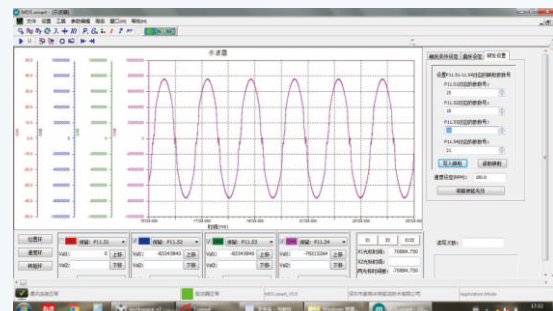
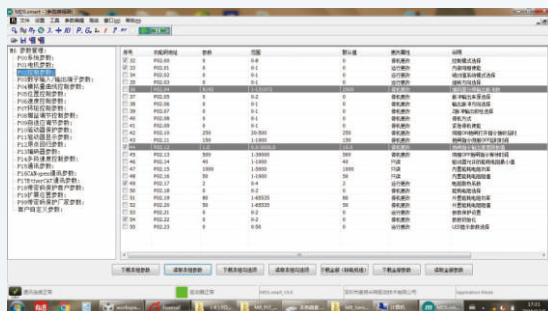
Cooling fan with
foolproof installation/wiring design

Keypad extension, paired with a keypad base, facilitating monitoring outside the cabinet, parameter backup, batch settings, and more

LED shuttle keypad as an option



The drive can be connected to a host controller via a USB-Type-C interface for visual operations such as parameter setting and status monitoring.



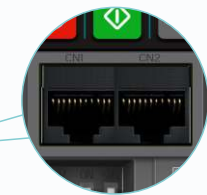
- Parameter upload/download
- Friendly HMI

- USB2.0 based communication
- 32 bit * 4-channel real-time oscilloscope display, sampling frequency up to 16 K, and various trigger modes

Dual RJ45 port design for convenient networking of multiple units



Parallel dual RJ45 ports, external keypad extension, and RS485/CANopen signals



Dual RJ45 ports

	Pin	Standard model	CANopen model	Description
RJ45	1	KEY_485+	KEY_485+	Connected to an external keypad
	2	KEY_485-	KEY_485-	
	3	RS485+	CANH	485/CANopen
	4	GND	GND	
	5	GND	GND	
	6	RS485-	CANL	
	7	\	\	
	8	\	\	



Excellent performance

Integrated control/drive

- Integrated drive of asynchronous and permanent magnet synchronous motors
- Integration of speed and torque modes
- Time-based multi-motor drive
- Integration of V/F and SVC control
- Optimized motor algorithms for more accurate parameter adjustment
- Non-standard function customization, and characteristic process algorithm



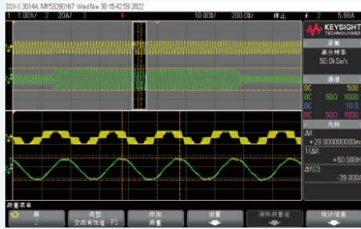
☒ V/F

☒ SVC1

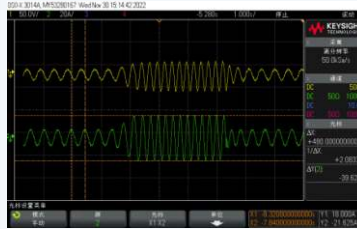
☒ SVC2

Drive performance test (SVC 5.5 kW asynchronous motors)

Current/voltage waveform under abrupt load



Current/voltage waveform in low speed full-load operation



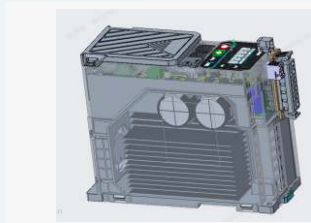
Current waveform under full load 50 Hz



Stable and reliable

Enhanced environmental tolerance, premium components, and optional STO

Independent air duct design and galvanic isolation to avoid dust intervention



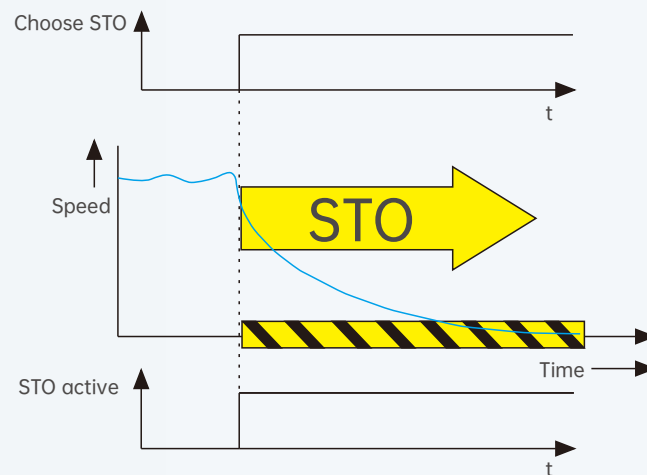
PCBA three-proof coating for seamless protection



Careful selection and adequate allowance of components for prolonged lifespan



Optional Safe Torque Off (STO) effectively prevents AC drive misoperation, which complies with the international safety standard SIL3 level.

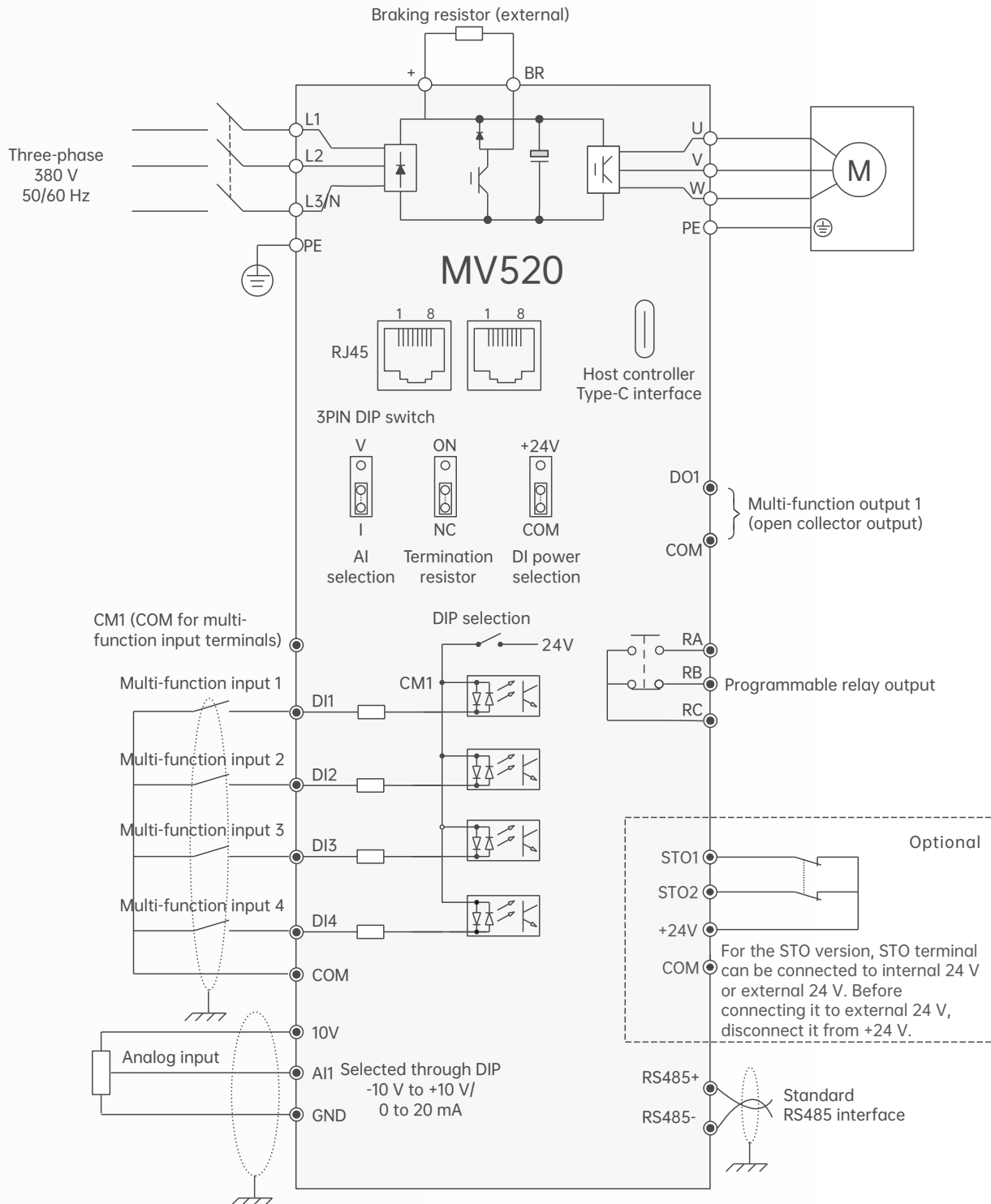


Technical Specifications

Power input	
Rated voltage (V)	2S/2T models: single/three-phase: 220 V to 240 V; voltage continuous fluctuation $\pm 10\%$, transient fluctuation -15% to $+10\%$, that is, 187 V to 264 V; voltage unbalance rate $< 3\%$, distortion rate compliant with IEC 61800-2 4T models: three-phase 380 V to 480 V; voltage continuous fluctuation $\pm 10\%$, transient fluctuation -15% to $+10\%$, that is, 323 V to 528 V; voltage unbalance rate $< 3\%$, distortion rate compliant with IEC 61800-2
Rated input current (A)	Please refer to Table 1-1 of the user manual
Rated frequency (Hz)	50 Hz / 60 Hz, fluctuation range ± 2 Hz
Power output	
Rated output power (kW)	Please refer to Table 1-1 of the user manual
Rated output current (A)	Please refer to Table 1-1 of the user manual
Output voltage (V)	Three-phase output under rated input conditions, 0 to rated input voltage, deviation less than $\pm 3\%$
Output frequency (Hz)	V/F: 0.00 to 599.00 Hz, unit: 0.01 Hz, vector control: 0.00 to 599.00 Hz
Overload capacity	1 min for 150% rated current, 10 s for 180% rated current, and 1 s for 200% rated current
Running control	
Control mode	Flux vector control without PG, V/F control
Maximum output frequency	599.0 Hz
Speed regulation range	1:200 (flux vector control without PG)
Speed control accuracy	$\pm 0.5\%$ (flux vector control without PG)
Speed fluctuation	$\pm 0.3\%$ (flux vector control without PG)
Torque response	< 20 ms (flux vector control without PG)
Torque control	Torque control precision $\pm 5\%$ for flux vector control without PG (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	
Key functions	Fast tracking, overtorque/undertorque detection, torque limit, multi-speed reference, multiple acceleration/deceleration time switchover, auto-tuning, S curve acceleration/deceleration, slip compensation, frequency hopping, PID adjustment, sleep function, Modbus communication, torque control, torque and speed control mode switchover, automatic restart, DC braking, dynamic braking; simple PLC, two sets of motor parameters switchover; fieldbus communication, etc.
Basic frequency	0.1 Hz to 599.0 Hz
Startup frequency	0.0 Hz to 50.0 Hz
Frequency setting mode	Digital panel setting, analog setting: AI1, simple PLC reference, multiple PLC reference, host controller communication setting, PID control reference, and fieldbus communication
Acceleration/Deceleration time	0.1 to 6000.0 (unit: 0.1 s)
Dynamic braking	Built-in braking unit for all MV520 models, braking ratio 0.0 to 100.0%
DC braking	Startup 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 rated current of the drive
Terminal functions	Please refer to the terminal function part for details.
Protection functions	
Please refer to the fault protection part for details.	

Others	
Efficiency	≥93%
Installation method	Wall-mounted. Mounted vertically on a solid indoor base, with at least 100 mm space for air inlet and outlet, and at least 10 mm space on the left and right sides of the case. The cooling medium is air.
Protection degree	IP20
Cooling	Air cooling
Environment	
Operating site	Indoors, away from direct sunlight, free from dust, corrosive gas, combustible gas, oil mist, water vapor, water dripping or salt, etc.
Altitude	Normal operation without derating for altitude ≤ 1000 m; derated by 1% for every increase of 100 m; maximum altitude: 3000 m.
Ambient temperature	-10°C to +50°C, air temperature change less than 0.5°C/min, derating required if the ambient temperature is above 40°C
Humidity	5% to 95% RH; no condensing, rain, snow, or hail; solar radiation below 700 W/m²; air pressure: 70 to 106 kPa
Vibration	Sine vibration: 1.5 mm displacement for 2 to 9 Hz; 5.9 m/s² (0.6 g) for 9 to 200 Hz
Storage temperature	-30°C to +70°C; air temperature change less than 1°C/min; maximum 60°C for long-term storage; 60°C to 70°C for short-term storage only

Basic Wiring



Naming Rule

MV520G 1 - 4 T 5.5 B

1

2

3

4

5

6

1 Product series

MV520G series

2 Product iteration

1: First generation

3 Input voltage class

2: 220 V
4: 380 V

4 Input voltage phase

S: Single-phase
T: Three-phase

**5 Rated capacity
(0.4 to 5.5 kW)**

5.5: 5.5kW

6 Braking unit

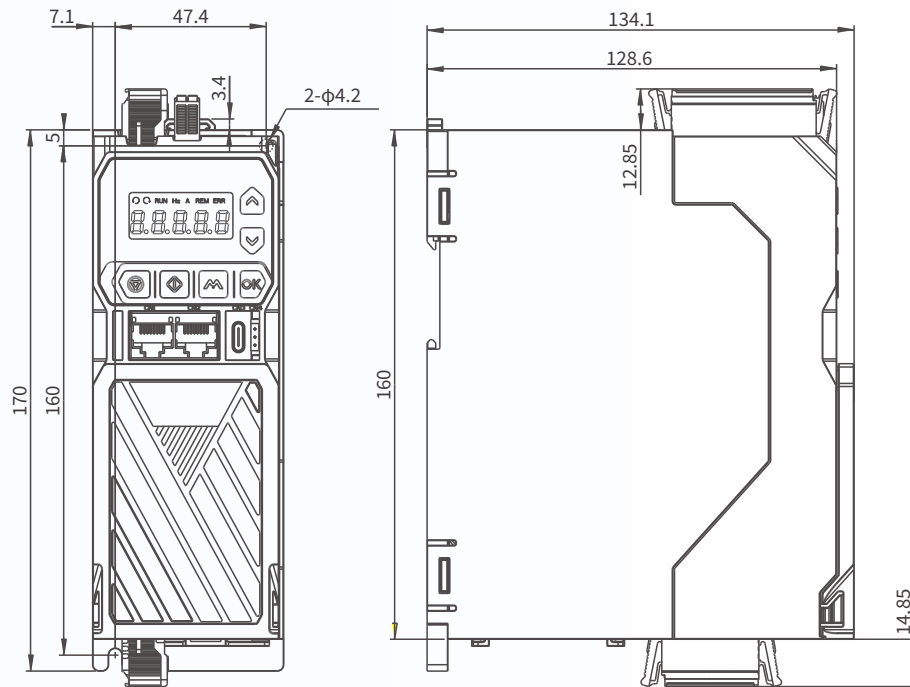
B: Built-in braking unit

Electrical Specifications

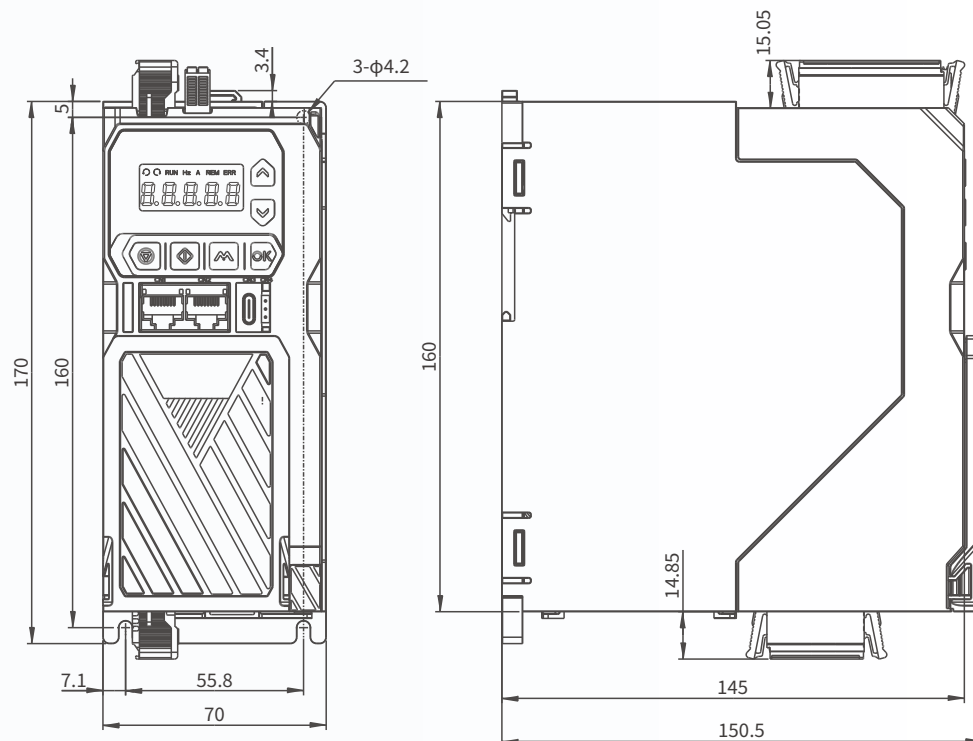
Enclosure	Product model	Rated input current (A)	Rated output current (A)	Rated output power (kW)	Fan's air volume (m³/min)
A	MV520G1-2S0.4B	5.3	2.4	0.4	7.74
	MV520G1-2S0.75B	8.5	4.2	0.75	7.74
	MV520G1-2S1.5B	15.0	7.5	1.5	7.74
	MV520G1-4T0.4B	1.8	1.5	0.4	7.74
	MV520G1-4T0.75B	3.5	2.7	0.75	7.74
	MV520G1-4T1.5B	5.1	4.2	1.5	7.74
	MV520G1-4T2.2B	5.8	5.6	2.2	7.74
B	MV520G1-2S2.2B	19.8	9.4	2.2	16.52
	MV520G1-4T3.7B	14.0	9.4	3.7	16.52
	MV520G1-4T5.5B	15.5	13.0	5.5	16.52

Product Dimensions

Enclosure A



Enclosure B



Global Infrastructure

MEGMEET's global footprint includes advanced R&D centers, integrated manufacturing, and regional offices enabling fast response, localized support, and efficient deployment worldwide.

MEGMEET's international engineering network supports close customer collaboration, rapid validation, and region-specific adaptation to deliver reliable, high-performance solutions globally.

