

# MEGMEET

## MV820 Series High Performance Vector Control Variable Speed Drive

BOM Code: R30\*\*\*\*\*  
Version: V00

This manual briefly introduces the model, operation panel, terminal wiring, main circuit and control circuit terminals, fast operation, common functional parameters, common faults and countermeasures, etc. For more functions and detailed descriptions of MV820 series drives, please see the full electronic manual.

### Product Model

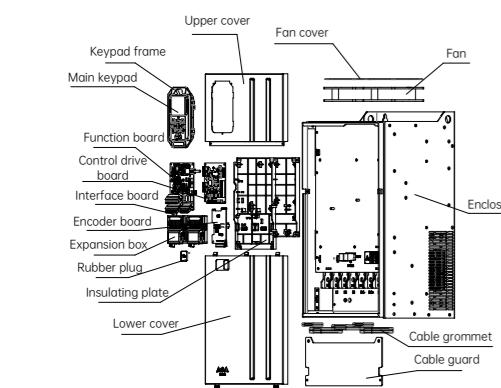
MV820 G 1 - 4 T 90 B T S - (XXX)

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

① Product series MV820: MV820 series	② Application G: General purpose S: Servo positioning T: Tension control F: Fly-cut	③ Product iteration Number: Customization
④ Input voltage class 2: 220 V 4: 380 V / 480 V	⑤ Input voltage phase S: Single-phase T: Three-phase	⑥ Rated capacity 0.4 kW to 220 kW
⑦ Braking unit B: Built-in braking unit	⑧ Reactor Null: Single-phase T: DC reactor	⑨ Safety function Null: No function S: STO
⑩ Non-standard xxx: Customer number		

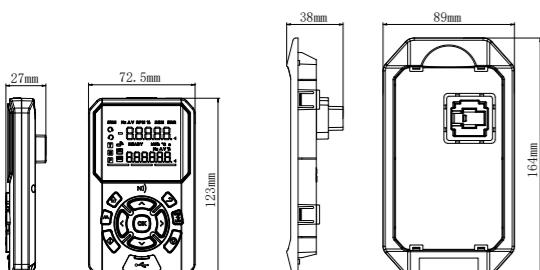
①For 22 kW or below, inductor is not included; for 30 kW to 110 kW, inductor is optional; for 132 kW or above, inductor is included as standard.  
②For MV820 models of 110 kW or below, built-in braking unit is included as standard.

### Product components



Make sure to properly install the dust-proof covers on both sides when used in high-pollution applications.

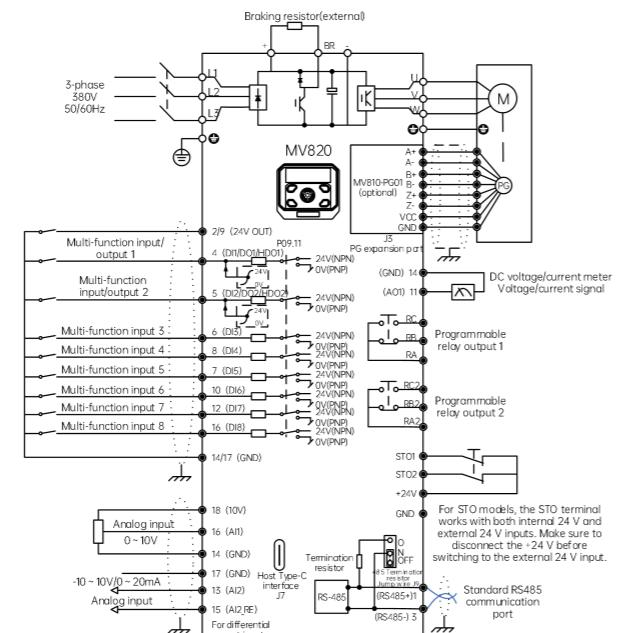
### Operation Panel



Symbol	Name	Meaning
Hz	Frequency LED	Flashing: The current parameter is the running frequency On: The current parameter is the frequency reference
A	Current LED	On: The current parameter is the current
V	Voltage LED	On: The current parameter is the voltage
RPM	RPM LED	On: The current parameter is the revolutions per minute
%	Percent LED	On: The current parameter is the percent
Forward running LED		On: During stop, there is a forward running command for the drive During running, the drive is running forward Flashing: The drive is switching from FWD to REV
Reverse running LED		On: During stop, there is a reverse running command for the drive During running, the drive is running reversely Flashing: The drive is switching from REV to FWD
ERR	Alarm LED	On: The drive enters the alarm status
RUN	Running LED	On: Running; Flashing: Stopping; Off: Stopped

REM	Operation command channel LED	Off: Local; Flashing: Communication On: Terminal
T	Torque control mode indicator	On: The drive is now in the torque control mode
S	Speed control mode indicator	On: The drive is now in the speed control mode
P	Position control mode indicator	On: The drive is now in the position control mode
	Wireless communication indicator	Flashing: Waiting for connection On: Connection is successful Off: Function is disabled
RED Y	Standby state indicator	On: In the standby state
---	Menu mode indicator	On: Current menu mode (quick menu, full menu and changed memory menu modes from left to right)
-	Negative sign indicator	On: The current data is negative; Off: The current data is positive
«	Main and auxiliary display area indicator	On: Indicates the current display area (main/auxiliary) that is being operated
NFC	NFC indicator	Flashing: Normal data communication Off: No data communication

### Wiring for Basic Operation



The GND terminal of the converter needs to be connected to the OV of an external equipment.

### Control circuit terminals wiring

1	3	5	7	9	11	13	15	17
2	4	6	8	10	12	14	16	18

Type	Mark	Name	Function	Specification
Communic	1	RS485	485 differential signal positive (Reference ground:GND) 485 differential signal negative (reference ground: GND)	Standard RS485 communication interface
Power supply	2/9	+24V power supply	+24 V reference power output	Permissible maximum output current 200 mA (the total current with all digital outputs included)
	18	+10 V power supply	+10 V reference power output	Permissible maximum output current 10 mA
	14/17	+24V, +10V power GND	Reference GND of +24 V and +10 V	Reference 0 V for digital input/output, analog input/output and communication signals
Unit LED		Hz	Frequency LED	Flashing: The current parameter is the running frequency On: The current parameter is the frequency reference
		A	Current LED	On: The current parameter is the current
		V	Voltage LED	On: The current parameter is the voltage
		RPM	RPM LED	On: The current parameter is the revolutions per minute
		%	Percent LED	On: The current parameter is the percent
Status LED			Forward running LED	On: During stop, there is a forward running command for the drive During running, the drive is running forward Flashing: The drive is switching from FWD to REV
			Reverse running LED	On: During stop, there is a reverse running command for the drive During running, the drive is running reversely Flashing: The drive is switching from REV to FWD
		ERR	Alarm LED	On: The drive enters the alarm status
		RUN	Running LED	On: Running; Flashing: Stopping; Off: Stopped

	terminal AI2, RE	differential input. If the analog current input is single-ended, you need to connect this terminal to GND.	supporting differential input
Analog output	11 Analog output AO1	Provides analog voltage/current output, with 28 kinds available. You can choose voltage or current analog output through the function code P09.02 (reference ground: GND).	Output voltage: 0 to 10 V, ±5% Output current: 0 to 20 mA

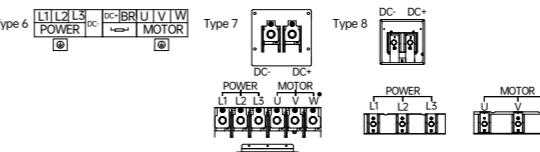
① Most multi-function terminals can be multiplexed into a variety of IO functions through function code. Such as DI, DO, HDI, HDO, AI, AO and thermocouple input.  
② The multi-function terminal DI/DIO wiring diagram does not mark the internal circuit diagram of the drive, and is only represented by the symbol "►".

### PC Card Terminal

Type	Mark	Name	Function description	Specification
Encoder	A+,A-	Encoder phase A signal	Encoder signal and power signal input ends,	Maximum input frequency ≤ 250kHz
	B+,B-	Encoder phase B signal	supporting OC, push-pull and differential output-type PG. See 4.2.2.7 for wiring details.	
	Z+,Z-	Encoder phase Z signal		
	VCC,GND	Encoder power supply	Provides power supply for the external encoder (reference ground: GND); 5 V or 12 V selected by the function code P04.04	Output voltage: +5V/12V Maximum output current: 200mA/150mA

### Main Circuit Terminals

Type 6: Enclosure H (Applicable models: 4T90/110)  
Type 7: Enclosure I (Applicable models: 4T132/160)  
Type 8: Enclosure J (Applicable models: 4T185/220)



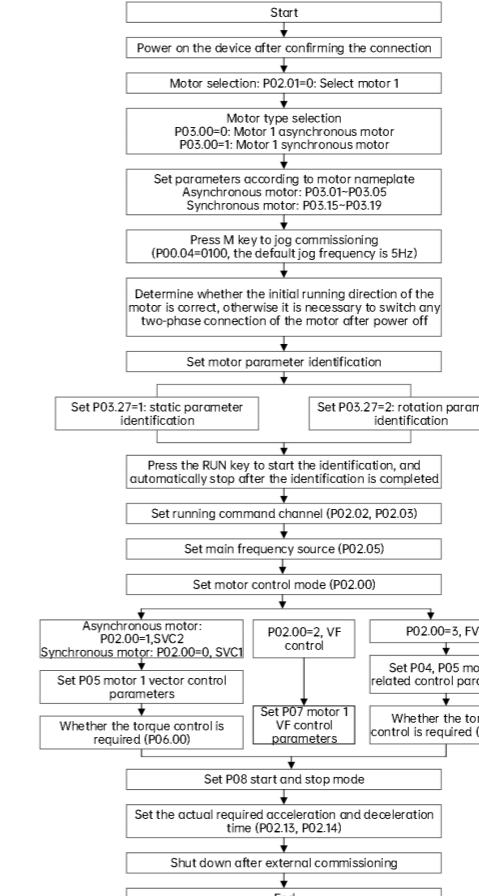
Terminal	Function
L1, L2, L3	Three-phase AC 380V or three-phase AC 220V input terminals
DC+, BR	Connect the external braking resistor terminals
DC+, DC-	DC bus terminals
U, V, W	Three-phase AC output terminals
	PE connection terminal, wiring frame fixing screw

### Quick Operation Instruction

Confirm that all terminals are properly fastened and connected, and whether the power of the motor and the drive match.

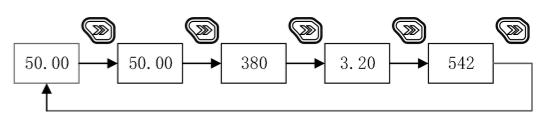
### Check before power-on

After the wiring and power inspection are confirmed, close the air switch of the AC power supply on the input side of the drive and power the drive. "----" will be displayed on the drive operation panel at first, and the contactor will normally suck. When the display character of the digital tube changes to the set frequency (such as 50.00), it indicates that the drive has been initialized.

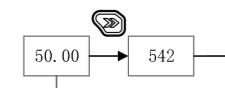


### Monitoring Mode

Through the function codes P16.00, P16.01 and P16.02, you can choose the drive parameters to be displayed on the operating panel during running, such as set frequency, output frequency, bus voltage DI, DO, AI and so on (for details, refer to Group P16). Then, you can view the chosen parameters through the "►" key on the operating panel. Shows the parameter display switchover during running with P16.00=0xFF, P16.01=0xF and P16.02=4.



Example of switching drive standby state monitoring parameters when P16.03=0x03, P16.04=0 is set.



### Quick Operation Instruction

O: Can be changed during running;  
x: Can be changed during stop;  
\*: Read only

Function code	Name	Description	Default value	Change
P00.00	Menu mode selection	O: Quick menu mode Only quick commissioning related parameters are displayed. 1: Full menu mode All function parameters are displayed. 2: Changed memory menu mode Only parameters that are different from factory settings are displayed.	1	○
P00.04	Selection of key functions	Ones place: Reserved Tens place: Function selection of the STOP key 0: The STOP key is valid only in the panel control channel. 1: The STOP key is valid in all control channels. Hundreds place: Function selection of multi-function M key 0: No function 1: FWD JOG 2: REV JOG 3: FWD and REV switchover 4: Command channel switchover (cyclic) Thousands place: Reserved 0: Parameters rewritable 1: Clear fault records 2: Restore to factory settings 3: Restore some parameters to factory settings (motor parameters not restored)	0	○
P00.05	Parameter initialization	0: SVC1 1: SVC2 (only for asynchronous motors) 2: V/F control (only for asynchronous motors) 3: FVC 0: Motor 1 1: Motor 2	0	x
P02.00	Control mode selection	0: SVC1 1: SVC2 (only for asynchronous motors) 2: V/F control (only for asynchronous motors) 3: FVC	2	x
P02.01	Motor selection	0: Motor 1 1: Motor 2	0	x
P02.02	Operation command channel selection	0: Keypad control 1: Terminal control 2: Communication control	0	x
P02.03	Communication command channel selection	0: Modbus channel / Modbus TCP channel 1 and 2: Reserved 3: EtherCAT / PROFINET / CANopen / EthernetNet channel	0	x
P02.04	Running direction	0: Same direction 1: Opposite direction		

Function code	Name	Description	Default value	Change
		5.5 kW and below: 10 s 5.5 to 30 kW (included): 20 s Above 30 kW: 40 s		
P02.14	Deceleration time 1	0.0 to 6000.0 s	Model dependent	○
P02.16	Carrier frequency	2.0 to 12.0 kHz	Model dependent	○
P03.00	Motor type selection	0: Asynchronous motor 1: Synchronous motor	0	×
P03.01	Asynchronous motor rated power	0.1 to 3000.0 kW	Model dependent	×
P03.02	Asynchronous motor rated voltage	0 to 1200 V	Model dependent	×
P03.03	Asynchronous motor rated current	0.8 to 6000.0 A	Model dependent	×
P03.04	Asynchronous motor rated frequency	0.01 Hz to P02.10	50.00 Hz	×
P03.05	Asynchronous motor rated speed	1 to 36000 rpm	Model dependent	×
P03.15	Synchronous motor rated power	0.1 to 3000.0 kW	Model dependent	×
P03.16	Synchronous motor rated voltage	0 to 1200 V	Model dependent	×
P03.17	Synchronous motor rated current	0.8 to 6553.5 A	Model dependent	×
P03.18	Synchronous motor rated frequency	0.01 Hz to P02.10	Model dependent	×
P03.19	Number of synchronous motor pole pairs	1 to 128	2	×
P03.27	Motor auto-tuning	0: No operation 1: Part parameter auto-tuning in the static status 2: Full parameter auto-tuning in the rotating status 3: Full parameter auto-tuning in the static status	0	×
P04.00	Encoder PPR	1 to 65535	1024	×
P04.01	Encoder type	0: No encoder 1: ABZ encoder 2: Resolver 3: ABZ +STO 4: STO card 5: Resolver+STO	0	*
P04.02	A/B phase sequence of ABZ incremental encoder	0: Forward 1: Reverse Note: Rotation auto-tuning automatically detects the phase sequence	0	×
P04.03	Reserved			
P04.04	PG card voltage class selection	0: 5 V 1: 12 V	0	×
P05.00	Speed loop proportional gain 1	1 to 100	10	○
P05.01	Speed loop integral time 1	0.01 to 10.00 s	0.50 s	○
P05.03	Speed loop proportional gain 2	1 to 100	10	○
P05.04	Speed loop integral time 2	0.01 to 10.00 s	1.00 s	○
P06.00	Torque control enable	0: Disabled 1: Enabled	0	○
P07.00	V/F curve	0: Straight-line V/F 1: Multi-point V/F 2: Square V/F 3: Reserved 4: V/F complete separation 5: V/F half separation	0	×
P07.01	Torque boost	0.0 to 50.0	Model dependent	○
P07.02	Cut-off frequency of torque boost	0.00 Hz to P02.11	50.00 Hz	×
P07.09	Torque compensation coefficient	0 to 300	150	○
P07.10	V/F overexcitation gain	0 to 200	80	×
P07.11	Oscillation suppression gain	0 to 100	40	○
P07.12	Oscillation suppression gain mode	0 to 2	0	×
P08.00	Startup mode	0: Startup from the startup frequency 1: Startup after speed tracking 2: Startup after DC braking	0	×
P08.01	Startup delay time	0.0 to 600.0 s The device responds to the operation commands after the delay time. During the delay, the device is in standby.	0.0	×
P08.02	Startup frequency	0.00 to 50.00 Hz	0.00	×
P08.03	Startup frequency hold time	0.0 to 50.0 s	0.0	×

Function code	Name	Description	Default value	Change
P08.06	Stop mode	0: Decelerate to stop 1: Coast to stop 2: Emergency stop	0	○
P09.00	Function selection of terminals 4, 5, 6, 8	Ones: 0: Terminal 4 as DI1 1: Terminal 4 as DO1 2: Terminal 4 as HDO1  Tens: 0: Terminal 5 as DI2 1: Terminal 5 as DO2 2: Terminal 5 as HDO2  Hundreds: Reserved Thousands: Reserved  Note: Terminal 6 can only be set as DI3. Terminal 8 can only be set as DI4.	0x10	○
P09.01	Function selection of terminals 7, 10, 12, 16	Ones: 0: Terminal 7 as DI5 1: Terminal 7 as thermosensitive signal input  Tens: 0: Terminal 10 as DI6 1: Terminal 10 as HDI  Hundreds: Reserved Thousands: 0: Terminal 16 as DI8 1: Terminal 16 as AI1 voltage input 2: Terminal 16 as AI1 current input  Note: Terminal 12 can only be set as DI7	0x10	○
P09.02	Function selection of terminals 13, 11	Ones: 0: Terminal 13 as AI2 voltage input 1: Terminal 13 as AI2 current input  Tens: 0: Terminal 11 as DO3 or RO2 1: Terminal 11 as AO1 voltage output 2: Terminal 11 as AO1 current output  Hundreds: Reserved Thousands: Reserved	0x10	○
P09.03	DI1 function selection	0: No function 1: Forward RUN 2: Reverse RUN 3: Forward jog 4: Reverse jog 5: Three-wire control	1	○
P09.04	DI2 function selection	0: No function 1: DI1 negative logic active	0	○
P09.05	DI3 function selection	22	○	
P09.06	DI4 function selection	0	○	
P09.07	DI5 function selection	0	○	
P09.08	DI6 function selection	0	○	
P09.09	DI7 function selection	0	○	
P09.10	DI8 function selection	0	○	
P10.00	D01 function selection	0: Disabled 1: AC drive in running	0	○
P10.01	D02 function selection	1	○	
P10.02	D03 function selection/ Relay RO2 output selection	0	○	
P10.03	Relay RO1 output selection	0	○	
P15.00	Communication format	Ones: 0: Modbus protocol 1: Profenet 485协议  Tens: 0: 1-8-2-N format 1: 1-8-1-E format 2: 1-8-1-O format 3: 1-8-1-N format	0x30	○

Fault code	Fault type	Possible fault cause	Solutions
CE 17	Abnormal remote serial port communication	①The baud rate is set improperly ②Reset by pressing the "STOP/RESET" key, seek for service support ③Modify the P15.03 settings	
ITe 19	Current detection circuit abnormal	①The wirings or the plug-in units of the control board loosens. ②Hardware failure	①Check them and rewiring ②seek for service support
bCE 46	Board-level communication fault	Board inspection signal connection problem	Seek for service support

Note: For more fault type and solutions, please see the full electronic manual.

## Warranty and Service

(1) Warranty period  
The product is warranted for 18 months from the date of purchase, however, the warranty date shall not exceed 24 months after the manufacture date recorded in the nameplate.

(2) Warranty scope  
During the warranty period, any product abnormalities incurred due to our company can be freely repaired or replaced by our company. In case of any following situations, a certain maintenance fees for the product will also be charged even if it is in the warranty period.  
 ① The damages are caused by fire, flood, strong lightning strike, etc.  
 ② The artificial damages are caused by unauthorized modifications.  
 ③ The product is damaged due to fall or in transit after purchasing.  
 ④ The damages are caused by using beyond the standard specification requirements.  
 ⑤ The damages are caused by operation and use failing to follow the instruction manual.  
 ⑥ After-sales service  
 ① If there are specific requirements for drive installation and commissioning , or the working status of the drive is unsatisfactory (such as unsatisfactory performance and function), please contact your product agent or Shenzhen Megmeet Electric Co., Ltd..  
 ② In case of any abnormality, please timely contact your product provider or Shenzhen Megmeet Electric Co., Ltd. for help.  
 ③ During the warranty period, our company will repair any product abnormality incurred due to product manufacturing or design free of charge.  
 ④ If the product is out of the warranty period, our company will make paid repair according to user's requirement.  
 ⑤ The service charge is calculated by actual costs. If there is an agreement, the agreement shall prevail.

If you want to know any information about the product, please contact us. Please provide the product model and the product serial number of the required information when consulting. You can access information and services in the following ways:

- ① Call our national unified service hotline: +86-400-666-2163
- ② Website: www.megmeet.com
- ③ Scanning the two-dimensional code of inverter body data can be directly linked to the corresponding product data; You can also scan the Megmeet program QR code, enter the mini program, click "Data" at the bottom, select relevant business segments, select corresponding products, and obtain more information.



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### Drive Warranty Bill

Customer company:
Detailed address:
Contact: _____ Tel: _____
Machine model:
Machine No: _____ Purchase date: _____
Service unit:
Contact: _____ Tel: _____
Maintenance date:

## MEGMEET

Inspector: _____
Production Date: _____
Certificate of conformity
This product has been inspected by our quality department, its performance parameters meet the design standards, and it is allowed to leave the factory.