

MV800 Ethernet/IP Communication Option

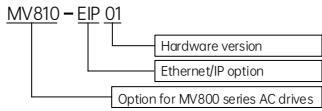
User Manual

BOM Code: R33011405

Version: V00

1 Product information

1.1 Designation rule



1.2 Functions and specifications

MV810-EIP01 option provides communication expansion for the MV800 drive series. Its functions and specifications are explained as below.

1.2.1 Key functions

- (1) PZD control of data exchange
- (2) PKW access to drive parameters
- (3) 100 Mbps full duplex
- (4) Linear network topology and star-type topology

1.2.2 Technical specifications

EIP connector	Interface	Two RJ45 ports
	Transmission mode	High-speed bus
	Transmission media	CAT5 shielded twisted pair cable
	Galvanic isolation	500 V DC
Communication	Network standard	EIP
	Transmission protocol	100BASE-TX (IEEE 802.3)
	Transmission distance	100 M
	Bus transmission	100 Mbps Auto-Defect

Electrical specifications	speed	
	Module name	MV810-EIP01
	EDS file	MEGMEET_MV800_EthernetIP_V1.01.EDS
	Power voltage	3.3 V DC (provided by the drive)
	Insulation voltage	500 V DC
Environment specifications	Power consumption	1 W
	Weight	25 g
	Noise immunity	ESD (IEC 61800-5-1, IEC 61000-4-2) EFT (IEC 61800-5-1, IEC 61000-4-4) Surge test (IEC 61800-5-1, IEC 61000-4-5) Conducted susceptibility test (IEC 61800-5-1, IEC 61000-4-6)
	Operating/Storage environment	Operating: -10 to 50°C (temperature), 95% (humidity) Storage: -45 to 70°C (temperature), 95% (humidity)
	Vibration/Shock resistance	GB 4798.3-2007, GB 12668.501-2013 / IEC 61800-5-1 (IEC 60068-2-6)

1.3 Terminal description

1.3.1 Layout

The front and back views of MV810-EIP01 are illustrated in Fig. 1.

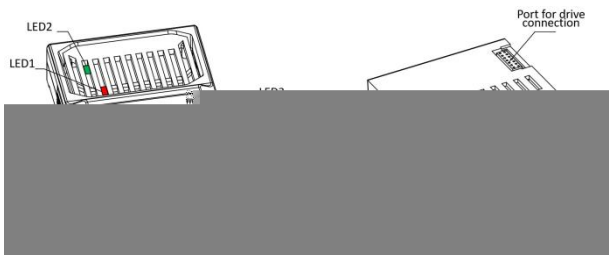


Fig. 1

The terminals of this option include the GND, two RJ45 ports, and the port for drive connection.

1.3.2 Interface description

EIP communication adopts the standard RJ45 port. This option provides two RJ45 ports as illustrated in Fig. 2.

The pin definitions of the MV810-EIP01 connector are listed below:

Pin	Name	Description
1	TX+	Transmit Data+
2	TX-	Transmit Data-
3	RX+	Receive Data+
4	N/C	NOT CONNECTED
5	N/C	NOT CONNECTED
6	RX-	Receive Data-
7	N/C	NOT CONNECTED
8	N/C	NOT CONNECTED

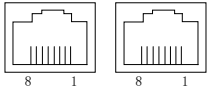


Fig. 2

1.3.3 Parameter settings for EIP network connection

To operate the MV800 drive using MV810-EIP01, it is necessary to set the operation command channel and the frequency source of the MV800 drive to the bus communication card, as shown in the following table.

Parameter	Value	Function description
P02.02	2	Set the operation command channel to communication control
P02.03	3	Set the communication command channel to Ethernet/IP
P02.05	8	Set the main frequency source to Ethernet/IP

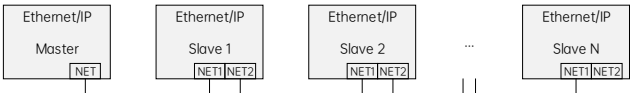
Settings of IP address (IP, subnet mask, and gateway) are shown in the table below.

Drive parameter	Value	Function description
P40.02	0 to 255	IP address 1
P40.03	0 to 255	IP address 2
P40.04	0 to 255	IP address 3
P40.05	0 to 255	IP address 4
P40.06	0 to 255	Subnet mask 1

Drive parameter	Value	Function description
P40.07	0 to 255	Subnet mask 2
P40.08	0 to 255	Subnet mask 3
P40.09	0 to 255	Subnet mask 4
P40.10	0 to 255	Gateway 1
P40.11	0 to 255	Gateway 2
P40.12	0 to 255	Gateway 3
P40.13	0 to 255	Gateway 4

1.3.4 Network topology

EIP network is generally composed of a master station and multiple slave stations. The network can be structured into a bus type, star type, tree type, etc., or a combination of several types, enabling flexible device connection and wiring. The bus-type network topology is shown in the figure below.



2 Installation

2.1 Accessory list

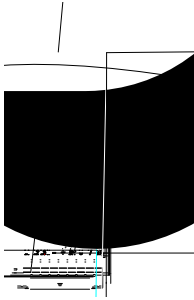
Name	Specification	Quantity
MV810-EIP01 option (with an expansion box)	75 × 60 × 24 mm	1
User manual	A4 × 1	1

2.2 Installation method

The installation position, interface, and steps of MV810-EIP01 option are described as below.

2.2.1 Installation position

MV800 provides two installation positions for accessory cards/options, as shown in Fig. 3 (the following example is based on Enclosure B, and also serves as the reference for other enclosure types). Position 1 is for the installation of various PG cards; position 2 is for the installation of PN bus options, ECAT bus options, EIP bus options, I/O expansion options, etc.



MEGMEET

Parameter	Byte	Description		
		Bit4: Decelerate to stop 0: Disable; 1: Enable		
		Bit5: Coast to stop 0: Disable; 1: Enable		
		Bit6: Fault reset 0: Disable; 1: Enable		
		Bit7: Emergency stop 0: Disable; 1: Enable		
		Byte8: Command word high byte		
		Byte9: Command word low byte		
		Status word of slave response:		
		Bit0: FWD running 0: Disable; 1: Enable		
		Bit1: REV running 0: Disable; 1: Enable		
		Bit2: Stop 0: Disable; 1: Enable		
		Bit3: Fault 0: Disable; 1: Enable		
		Bit4: Power failure 0: Disable; 1: Enable		
		Bit5: Ready state 0: Disable; 1: Enable		
		Bit6: Motor number 0: Motor 1; 1: Motor 2		
		Bit7: Motor type		
		0: Asynchronous; 1: Synchronous		
		Bit8: Overload pre-alarm 0: Disable; 1: Enable		
		Bit9 to Bit10: Control mode		
		0: Keypad; 1: Terminal; 2: Communication		
		Byte8: Status word high byte		
		Byte9: Status word low byte		
PZD2	Byte10	The eleven words (PZD2 to PZD12) are used to read/write the drive internal parameters which include P43.02 to P43.23 (parameters P43.02 to P43.12 are used for write operation; P43.13 to P43.23 are used for read operation).		
	Byte11			
PZD3	Byte12			
	Byte13			
PZD4	Byte14			
	Byte15	P43.02	PZD2 received	0: Disable
PZD5	Byte16	P43.03	PZD3 received	1: Frequency reference (0.00 to P02.10)
	Byte17			
PZD6	Byte18	P43.04	PZD4 received	2: Drive torque upper limit reference (0.0 to 300.0% motor rated current)
	Byte19			
PZD7	Byte20	P43.05	PZD5 received	3: Brake torque upper limit reference (0.0 to 300.0% motor rated current)
	Byte21			
PZD8	Byte22	P43.06	PZD6	
	Byte23			

MEGMEET

Parameter	Byte	Description
		4: Torque reference (-300.0 to 300.0% motor rated current)
		5: FWD run frequency reference upper limit (0.00 to P02.10)
		6: REV run frequency reference upper limit (0.00 to P02.10)
		7: Voltage reference (V/F separation) (0 to 1000)
		8: Virtual input terminal command (0 to 0xFF are corresponding to DI8 to DI1)
		9: Output terminal bus command (the output terminal function is set to 39; 0 to 0xF are corresponding to R dng