

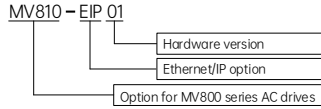
MV800 Ethernet/IP Communication Option

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 |

1

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 |

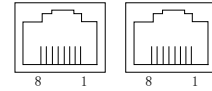


Fig. 2

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 |

3

| | | |
|-------------------------------|---|---|
| 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

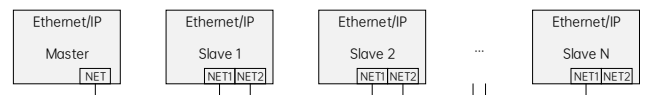
The terminals of this option include the GND, two RJ45 ports, and the port for drive connection.

2

| 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 |

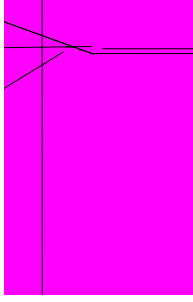
2.2 Installation method

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.

4



| 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 | | <table border="1"> <tr> <td>P43.02</td> <td>PZD2 received</td> <td>0: Disable 1: Frequency reference (0.00 to P02.10)</td> </tr> <tr> <td>P43.03</td> <td>PZD3 received</td> <td>2: Drive torque upper limit reference (0.0 to 300.0% motor rated current)</td> </tr> <tr> <td>P43.04</td> <td>PZD4 received</td> <td>3: Brake torque upper limit reference (0.0 to 300.0% motor rated current)</td> </tr> <tr> <td>P43.05</td> <td>PZD5 received</td> <td></td> </tr> <tr> <td>P43.06</td> <td>PZD6</td> <td></td> </tr> </table> | P43.02 | PZD2 received | 0: Disable 1: Frequency reference (0.00 to P02.10) | P43.03 | PZD3 received | 2: Drive torque upper limit reference (0.0 to 300.0% motor rated current) | P43.04 | PZD4 received | 3: Brake torque upper limit reference (0.0 to 300.0% motor rated current) | P43.05 | PZD5 received | | P43.06 | PZD6 | |
| P43.02 | PZD2 received | | 0: Disable 1: Frequency reference (0.00 to P02.10) | | | | | | | | | | | | | | | |
| P43.03 | PZD3 received | | 2: Drive torque upper limit reference (0.0 to 300.0% motor rated current) | | | | | | | | | | | | | | | |
| P43.04 | PZD4 received | | 3: Brake torque upper limit reference (0.0 to 300.0% motor rated current) | | | | | | | | | | | | | | | |
| P43.05 | PZD5 received | | | | | | | | | | | | | | | | | |
| P43.06 | PZD6 | | | | | | | | | | | | | | | | | |
| PZD5 | Byte16 | | | | | | | | | | | | | | | | | |
| | Byte17 | | | | | | | | | | | | | | | | | |
| PZD6 | Byte18 | | | | | | | | | | | | | | | | | |
| | Byte19 | | | | | | | | | | | | | | | | | |
| PZD7 | Byte20 | | | | | | | | | | | | | | | | | |
| | Byte21 | | | | | | | | | | | | | | | | | |
| PZD8 | Byte22 | | | | | | | | | | | | | | | | | |
| | Byte23 | | | | | | | | | | | | | | | | | |

ε

| Parameter | 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 dotarZdioeeonding) |