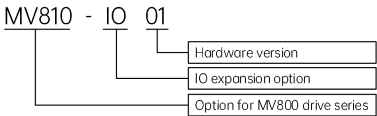


MV800 IO Expansion Option User Manual

Bom code: R33011123
Version: V01

1 Product Information

1.1 Designation rule



1.2 Functions and specifications

MV810-IO01 option provides IO expansions for the MV800 drive series. Its functions and specifications are described below:

1.2.1 Function features

- (1) Three DI expansions
- (2) Two relay output expansions
- (3) Provides external 24VDC power supply
- (4) Eurostyle pluggable terminal blocks

1.2.2 Technical specifications

Product	Terminal	Specifications
Simple IO expansion option	DI9–DI11	Multi-function input terminals set by P41.00–P41.02; Support NPN/PNP input, selected by P41.03, active level: 9 to 30 V; Power supplied by the option's terminal (24V _{DC}) or external 24 V DC (see wiring details in 4.2.2.4 of the full edition of the drive's user manual); Support filtering and switch-on/off delay.
	RO2–RO3	Multi-function output terminals set by P41.13–P41.14; RO2 contains one TA2/TB2 (normally closed), one TA2/TC2 (normally open); contact capacity: 250 V AC/3 A 30 V DC/1 A; RO3 contains one TA3/TC3 (normally open); contact capacity: 250 V AC/3 A 30 V DC/1 A; Support output polarity and switch-on/off delay (see wiring details in 4.2.2.6 of the full edition of the drive's user manual).
	24 V, GND	Power output: +24 V DC, ±5%, <200 mA

1.3 Terminal description

1.3.1 Layout

The following figure shows the front and back views of MV810-IO01.

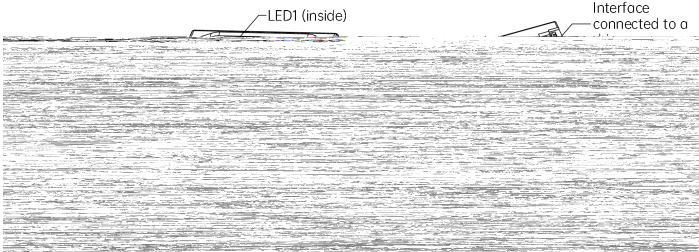


Fig. 1

1.3.2 LED indicator description

MV810-IO01 has an LED indicator inside (see Fig. 1). See the LED description below:

LED	Status	Description	Action
LED1 (red)	Steady on	Normal power supply for the IO option	No need for actions
	Flashing	No power supply for the IO option. Check whether the IO option is properly connected to the drive properly	

1.3.3 Function codes

Table field	Description
Default value	It is the factory setting value of the function code.
Property	○ : indicates the function code can be modified in the running status. ×: indicates the function code can be modified in the stop status. *: indicates the function code is read-only and cannot be modified.

Function code	Name	Description	Default value	Property
P40.00	Option type	0: No communication option	0	×
		1: PROFINET		
		2: EtherCAT		
		3: IO option		
P40.01	Detection time for options	0.0 to 10.0 s No timeout detection when set to 0	0.0 s	○
P41.00	DI9 function selection	0: No function 1: Forward RUN	0	○
P41.01	DI10 function selection	2: Reverse RUN	0	○
		3: Forward jog 4: Reverse jog 5: Three-wire control 6: Multi-reference terminal 1 7: Multi-reference terminal 2 8: Multi-reference terminal 3 9: Multi-reference terminal 4 10: Acceleration/Deceleration time terminal 1 11: Acceleration/Deceleration time terminal 2		
P41.02	DI11 function selection	12: Reserved	0	○
		13: Frequency up/down setting clear 14: Frequency increase command (UP) 15: Frequency decrease command (DN) 16: External fault NO input 17: External fault NC input 18–72: Refer to the full edition of the drive's user manual		
P41.03	Terminal open-circuit voltage	0: Digital terminal open-circuit voltage 0 V 1: Digital terminal open-circuit voltage 24 V	1	○
		Ones: 0: DI9 positive logic active 1: DI9 negative logic active Tens: 0: DI10 positive logic active 1: DI10 negative logic active Hundreds: 0: DI11 positive logic active 1: DI11 negative logic active Thousands: Reserved		
P41.04	DI9 to DI11 active mode	0: DI10 positive logic active 1: DI10 negative logic active Hundreds: 0: DI11 positive logic active 1: DI11 negative logic active Thousands: Reserved	0	○
P41.06				

Name		Description	Default value	Property	
P41.00	Direction selection	3: Reverse running			
		4: Frequency reach signal			
		5: Frequency-level detection signal (FDT1)			
		6: Frequency-level detection signal (FDT2)			
		7: Overvoltage detection signal (OL)			
		8: Lockout undervoltage (LU)			
		9: Overcurrent (OC)			
		10: Upper limit (UL)			
		11: Lower limit (LL)			
		12: Zero speed running			
		13: Stage completion			
		14: Full completion			
		15: Inverter stop			
		16: Inverter stop reach			
		17: AC drive ready to run (RDY)			
		18: AC drive fault			
		Full edition of manual			
		P41.15			Output terminal polarity selection
P41.16	RO2 switch-on delay time	Used to set the delay time for level jump upon switch-on/off of output terminals. Range: 0.0 to 600.0 s	0.0 s	○	
P41.17	RO2 switch-off delay time		0.0 s	○	
P41.18	RO3 switch-on delay time		0.0 s	○	
P41.19	RO3 switch-off delay time		0.0 s	○	
P50.00	Option type status view	0: No communication option 1: PROFINET 2: EtherCAT 3: IO option	0	*	
P50.03	DI status of the IO option	0 to 0x111 0: Disabled 1: Enabled	0	*	
P50.04	DO status of the IO option	0 to 0x11 0: Disabled 1: Enabled	0	*	

Name		Description	Default value	Property			
P41.00	Direction	3: Reverse running					
		4: Frequency reach signal					
		5: Frequency-level detection signal (FDT1)					
		6: Frequency-level detection signal (FDT2)					
		7: Overvoltage detection signal (OL)					
		8: Lockout undervoltage (LU)					
		9: Overcurrent (OC)					
		10: Upper limit (UL)					
		11: Lower limit (LL)					
		12: Zero speed running					
		13: Stage completion					
		14: Full completion					
		15: Inverter stop					
		16: Inverter stop reach					
		17: AC drive ready to run (RDY)					
		18: AC drive fault					
		full edition of manual					
		P41.15			Output terminal polarity selection	Tens: 0: RO2 positive logic active 1: RO2 negative logic active Hundreds: Reserved Thousands: Reserved	0
P41.16	RO2 switch-on delay time	Used to set the delay time for level jump upon switch-on/off of output terminals. Range: 0.0 to 600.0 s	0.0 s	○			
P41.17	RO2 switch-off delay time		0.0 s	○			
P41.18	RO3 switch-on delay time		0.0 s	○			
P41.19	RO3 switch-off delay time		0.0 s	○			
P50.00	Option type status view	0: No communication option 1: PROFINET 2: EtherCAT 3: IO option	0	*			
P50.03	DI status of the IO option	0 to 0x111 0: Disabled 1: Enabled	0	*			
P50.04	DO status of the IO option	0 to 0x11 0: Disabled 1: Enabled	0	*			

2 Installation

The installation position, interface and steps of MV810-IO01 are described below:

2.1 Installation position

MV800 drive series provides two positions for installation of accessory cards and options: position 1 and position 2 in the right figure (taking enclosure B as an example, similar for other enclosures). Position 1 is used to install various PROFINET options, position 2 is used to install EtherCAT options, IO options and so on.

2.2 Connection interface

The electrical interface of the MV810-IO01 is connected to the terminal block as shown in the right figure.

2.3 Installation steps

Installation method: front side mounting of IO option
(1) When the drive is powered off, press the granulated part on the ii