MEGMEET

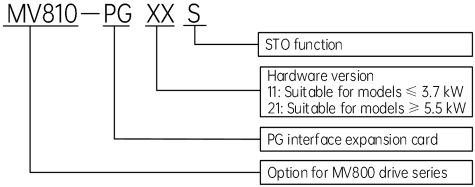
MV800 Simple Incremental PG Card (with STO Function) User Manual

BOM code: R********

Version: V00

1 Product Information

1.1 Naming rule



1.2 Function description

MV810-PG*1S is an accessory card for the MV800 series AC drive, which provides encoder interfaces, with differential ABZ input and open-collector input, serving as the speed or position feedback. It has two ways of STO signal input to achieve Safe Torque Off for the AC drive.

1.3 Product appearance

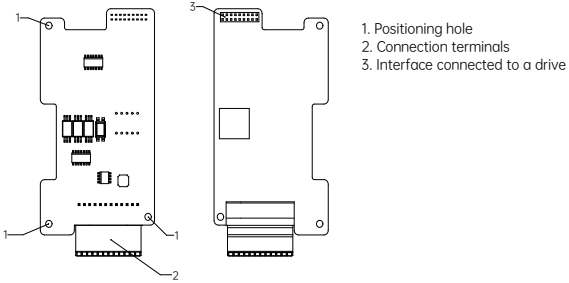


Fig. 1-1 PG*1S appearance (for models of 3.7 kW and below)

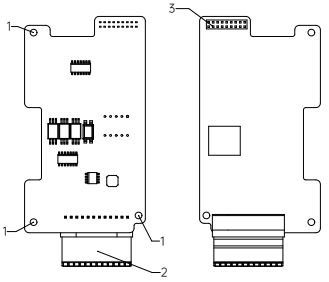


Fig. 1-2 PG*1S appearance (for models of 5.5 kW and above)

1.4 Terminal description

The following figure shows the terminal marks of MV810-PG*1S.

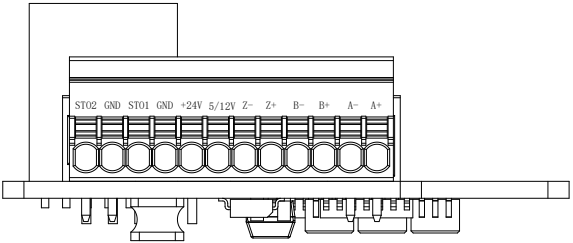


Fig. 1-3 Terminal mark

The terminal definitions of MV810-PG*1S are shown in the following table.

Table 1-1 PG*1S terminal functions

Type	Mark	Name	Function description	Specifications
MV810-PG*1S card	A+, A-	Encoder phase A signal	Encoder signal and power signal input ends, supporting OC, push-pull and differential output-type PG. See 4.2.2.7 of the complete user manual for wiring details.	Max. input frequency ≤ 250 kHz
	B+, B-	Encoder phase B signal		
	Z+, Z-	Encoder phase Z signal		

Type	Mark	Name	Function description	Specifications
	5/12V	Encoder power supply	Provides power supply for external encoders (reference ground GND) 5 V or 12 V selected through P04.04.	Output voltage: +5 V / 12 V Max. output current: 200 mA / 150mA
	+24V	STO1, 2 power +	When not using the STO function, you can connect this terminal to STO1 and STO2 to disable the STO function (by default).	Output voltage: +24 V±10% Max. output current: 100 mA
	STO1	STO1 terminal	STO1 function input 1	Optocoupler isolation. By default, the STO1 and STO2 are connected to +24V with a short contact tag. External 24 V wiring is available, which is shown in the STO wiring diagram below mentioned.
	STO2	STO2 terminal	STO2 function input 2	
	GND	STO1, 2 power ground	Ground for 5/12V, +24V	

1.5 Signal description

The ABZ signal waveform of MV810-PG*1S is shown in the following figure. When the motor rotates forward (the operating frequency is positive), phase A leads phase B by 90 degrees. Conversely, phase A lags behind phase B by 90 degrees. The Z signal is used to provide the absolute position information for correction of counting and locating of initial position. One Z signal is sent for each revolution of the encoder.

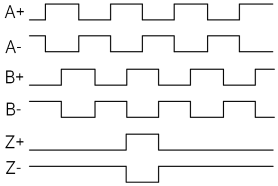
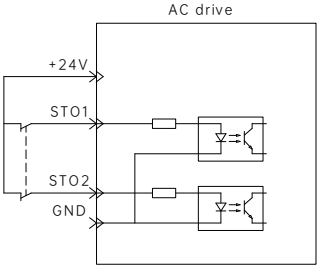


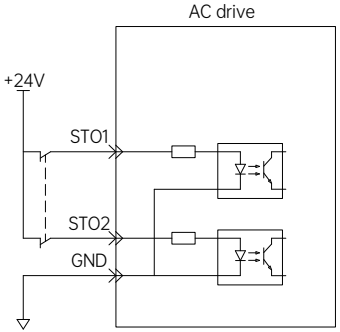
Fig. 1-4 ABZ signal

1.6 STO wiring diagram

(1) Internal 24 V wiring diagram



(2) External 24 V wiring diagram



WARNING

① If you do not use the STO function, you need to short STO1 and STO2 to +24V according to one of the wiring diagrams above. For wiring, it is recommended to use tubular terminals such as Guosai's EVN0510 (double-wire) and Semikron's E0208 (single-wire). The recommended cable is 0.2 mm² (AVVR) or 24 AWG (UL1007).

② For other terminals, such as encoder signals and power supply signals, it is also advised to use the abovementioned tubular terminals and cables.

1.7 Related function codes

Here are explanations of table fields for function codes.

Field	Explanation
Default	Factory settings of function codes
Property	○: means the function code can be changed during running; ×: means the function code can be changed at stop; *: means the function code can be read only and cannot be changed.

Function code	Name	Description	Default	Property
P04.00	Encoder PPR	1 to 65535	1024	×
P04.01	Encode type	0: ABZ incremental encoder	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	×

2 Installation

The installation position, installation interface and installation steps for MV810-PG*1S are described below.

2.1 Installation position of PG card

MV800 series AC drive provides two positions for expansion cards and options, as shown in Fig. 2-1 position 1 and position 2 (taking enclosure B as an example, similar for other enclosures), where position 1 is for the installation of various PG cards and position 2 is for the installation of PN bus options, ECAT bus options, I/O options, and so on.

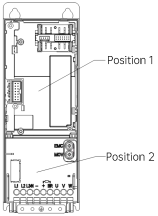


Fig. 2-1 Expansion card/Option installation positions

2.2 Installation interface of PG card

The electrical interface of PG*1S card is connected to the MV800 AC drive as shown in Fig. 2-2.

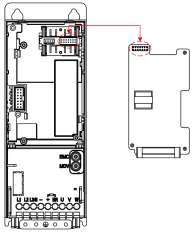


Fig. 2-2 Installation interface of PG card

2.3 Installation steps of PG card

Installation method: Reverse side mounting (PG*1S card)

(1) When the drive is powered off, press the granulated part on the middle-upper of the lower cover, and slide it down firmly to take down the cover, as shown in Fig. 2-3 a.

(2) Use a straight screwdriver to pry open the two snap-fit joints between the control box and the drive, and then remove the control box upwards, as shown in Fig. 2-3 b and c.

(3) Install the PG*1S card: Hold the PG*1S card with its terminal block downwards, then align the three round holes on the PG*1S card with the location column, and press down to buckle the PG*1S card firmly into the four snap-fit joints, as shown in Fig. 2-3 d.

(4) After the PG card is installed, align the control box with the snap-fit joints, and press down the control box to make its lower part firmly buckled, then slide the lower cover to lock it on the drive, as shown in Fig. 2-3 e and f.

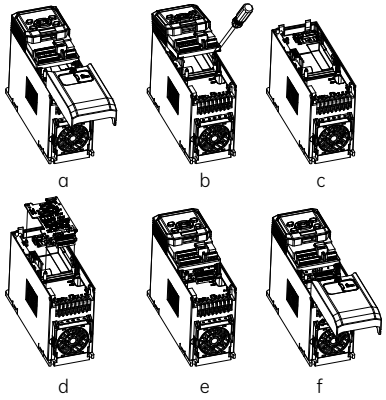


Fig. 2-3 Position 1 - PG card installation steps

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Warranty bill of communication option

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

MEGMEET SHENZHEN MEGMEET ELECTRICAL CO., LTD. Certificate	Checker:_____ Manufacturing date: _____ The product has been tested in line with design standards and approved for leaving the factory.