MEGMEET

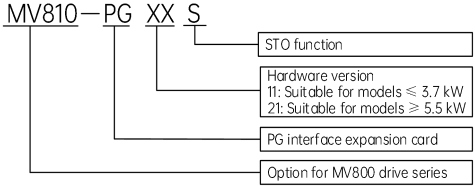
MV800 Simple Incremental PG Card (with STO Function) User Manual

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

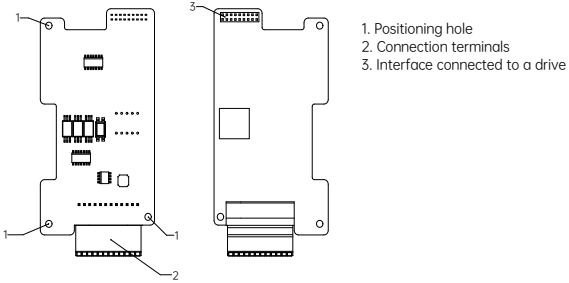


Fig. 1-1 PG*1S appearance (for models of 3.7 kW and below)

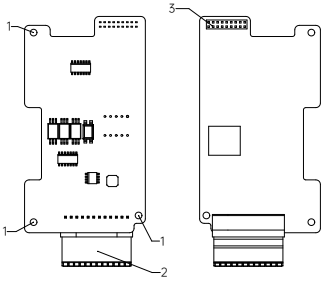


Fig. 1-2 PG*1S appearance (for models of 5.5 kW and above)

1.4 Terminal description

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

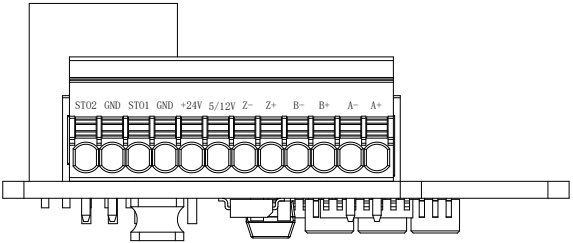


Fig. 1-3 Terminal mark

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.

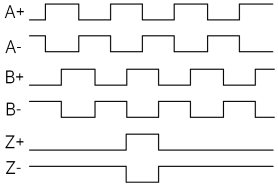
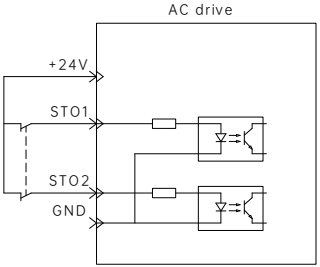


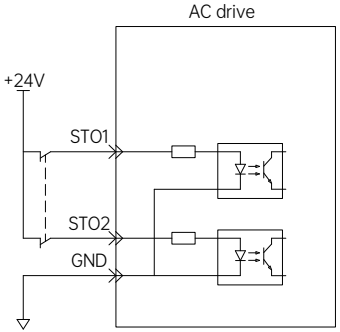
Fig. 1-4 ABZ signal

1.6 STO wiring diagram

(1) Internal 24 V wiring diagram



(2) External 24 V wiring diagram



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.

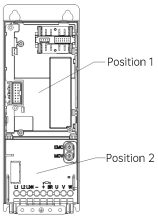


Fig. 2-1 Expansion card/Option installation positions

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.

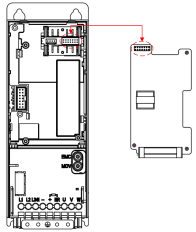


Fig. 2-2 Installation interface of PG card

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.

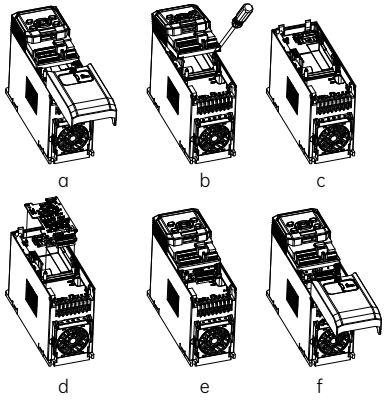


Fig. 2-3 Position 1 - PG card installation steps

MEGMEET

Shenzhen Megmeet Electrical Co., Ltd.

Address: 5th Floor, Block B, Unisplendor Information Harbor, Langshan Road, Nanshan District, Shenzhen, 518057, China

Tel: +86-755-86600500

Fax: +86-755-86600562

Zip code: 518057

Website: https://www.megmeet.com

Service email: driveservice@megmeet.com

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Warranty bill of communication option

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Service unit:	
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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.