

USER MANNAL FOR PG SIGNAL ISOLATION CARD

(PGA-B001)

Technical Parameter

PG signal isolation card PGA-B001 could receive single ended open collector output signals and differential output encoder signals, and output differential encoder signals, with following parameter configurations:

- ◆ 5V/500mA (maximum) voltage supply;
- ◆ Incremental encoder three-phase ABZ differential input standard interface;
- ◆ Three-phase ABZ differential output interface;
- ◆ Signal frequency: $\leq 200\text{KHz}$;
- ◆ Signal amplitude value: $5\text{V} \pm 20\%$.

Interface

Wiring terminals are shown in Figure 1:

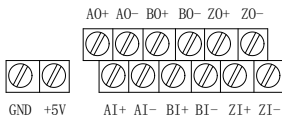


Figure 1 Diagram of Terminals of PG Signal Isolation Card

Terminals Specification

Type	Symbol	Function
Auxilliary power	+5V	Providing +5V maximum 500mA current externally
Common terminal	GND	+5V power reference ground
Differential Output	AO+	Encoder A-phase differential (+5V±20%) output, maximum frequency ≤200 KHz
	AO-	
	BO+	Encoder B-phase differential (+5V±20%) output, maximum frequency ≤200 KHz
	BO-	
	ZO+	Encoder Z-phase differential (+5V±20%) output, maximum frequency ≤200 KHz
	ZO-	
Differential input	AI+	Encoder A-phase differential (+5V±20%) input, maximum frequency ≤200 KHz
	AI-	
	BI+	Encoder B-phase differential (+5V±20%) input, maximum frequency ≤200 KHz
	BI-	
	ZI+	Encoder Z-phase differential (+5V±20%) input, maximum frequency ≤200 KHz
	ZI-	

Internal Equivalent Diagram

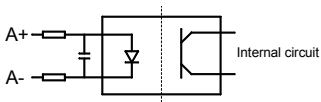


Figure 2 A-phase Internal Structure Equivalent Diagram

Application Connection

Taking A signal input as example:

1. Open collector input signal (wire length_(max)=50m).

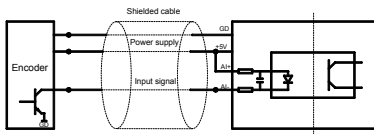


Figure 3 Open Collector Output Diagram

2. Long line differential drive input (wire length_(max)=1km).

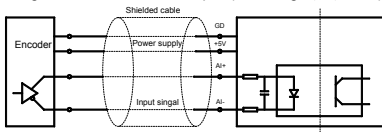


Figure 4 Long Line Differential Output Diagram

3. Output signal only applies to differential output. Refer to Figure 4 for circuit.

Precaution

- ◆ Signal line and power line should be laid separately, but should not be paralleled.
- ◆ Make sure using shielded cable as signal line.
- ◆ Shielding layer of the shielded cable should be grounded at single end (such as E end of frequency converter).