GPIO Interface Control

Operation Manual

Applicable Models: iX4 Pro Series

iX6 Pro Series

LK Series

MX Series

https://www.argox.com

Version: 1.0

1. Specifications

1.1 The GPIO interface is designed for Argox industrial printers and external peripheral devices.

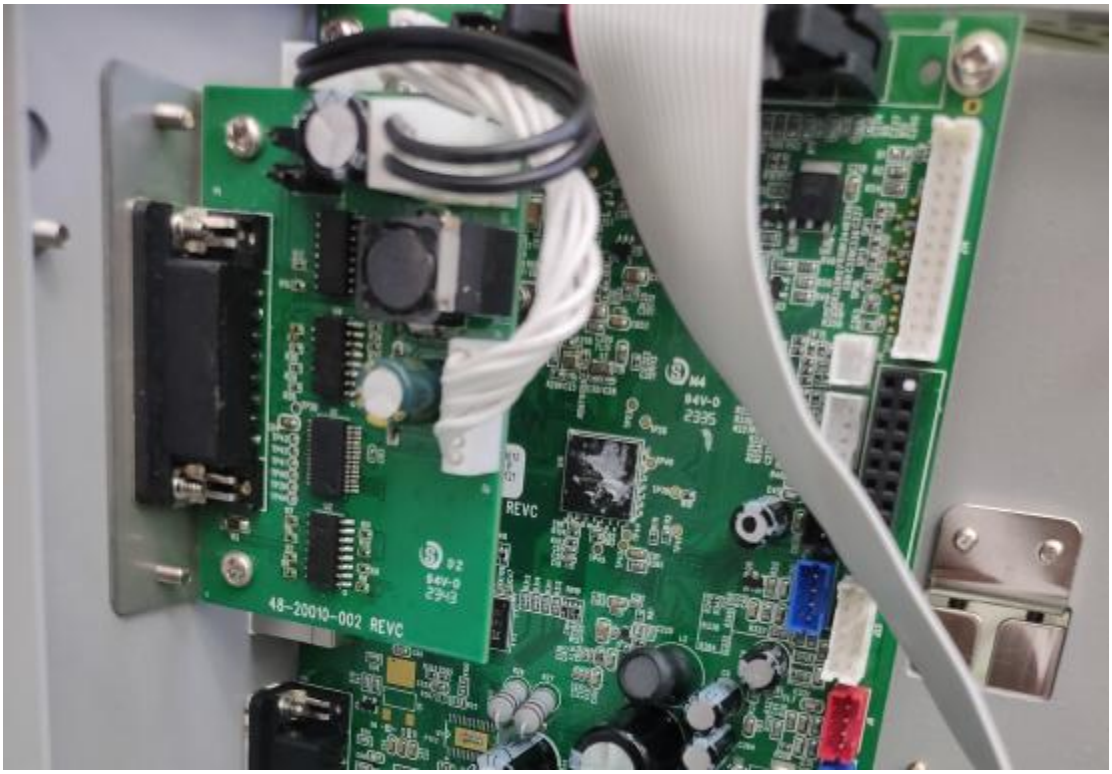


Figure 1 Installation of a GPIO card onto the industrial printer

1.2 The GPIO interface works in exceptional control by changing input signal levels; it’s programmable or customized, and output signals show the printer status or functional indicator.

1.3 The GPIO interface is shown in Figures 2 and 3; it uses a D-Sub 15-pin female connector.

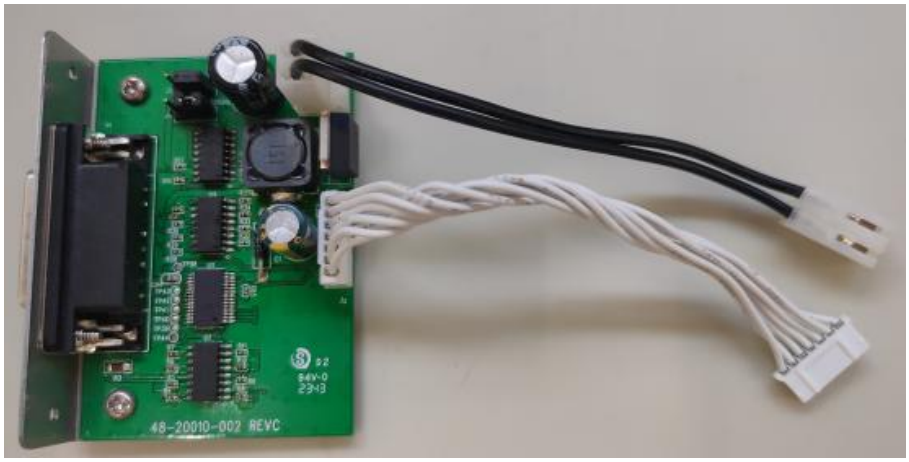


Figure 2 GPIO board

Figure 3

1.4 Connector pin definitions are as follows:

Pin No.	Type	Default Function	Description
1	P	External GND	The return path for the isolated input power supply. Please refer to Figure 9.
2	P	External power supply for control signal	The positive voltage supply path for the isolated input power. Please refer to Figure 9.
3	I	Start Print	Start printing. Trigger this signal (high to low) to enable the printer to print one received format label.
4	I	Feed	Feed. Trigger this signal (from high to low) to feed one label. It is the same as the “FEED” key on the panel.
5	I	Pause	Pause. When this signal is triggered (high to low), the printer stops the print job until the next pause signal is triggered.

Pin No.	Type	Default Function	Description
6	I	Reprint	Reprint. The printer reprints the last label when this signal is triggered (high to low).
7	P	24V Printer Output	The positive voltage supply path for the printer's 24V output. Do not directly connect to an external power supply.
8	P	Printer Ground Connection	The return path for the printer's 24V output
9	NC	Not Connect	
10	O	Serv_Req	When the printer prints, this output signal changes from low to high. If a printer error occurs, it changes from high to low.
11	O	End Print	At the end of printing, a low pulse signal is output in 100ms.
12	O	Media Out	Media out. When the printer runs out of paper or has a paper jam error, this output signal will change from high to low (active low).
13	O	Ribbon Out	Ribbon out. When the ribbon runs out, this output signal will change from high to low (active low).
14	O	Data Ready	The data is ready. This output signal will change from high to low (active low) when printing data is received and waiting to trigger printing.
15	O	Output Fault	Output fault. When a printer error occurs, this output signal changes from high to low (active low).

Type: P for Power; I for Input; O for Output

Table 1

2. Connector pin specification

2.1 All input pins listed in the table have an internal 1k ohm pull-up resistor.

2.2 All output pins listed in the table have an internal 10k ohm pull-up resistor.

2.3 The GPIO provides one power supply for external devices; the maximum current output for the 24V supply is 1A.

2.4 The power supply can be isolated, non-isolated 24V, or non-isolated 5V. Please refer to Figure 9.

2.5 To avoid noise and errors, the connecting cable between the GPIO interface and the external device should be less than 15 feet long.

3. Input/Output Signal Description

3.1 There are four input pins for the application.

(1) Pin 3

Start Print:

a. This signal makes the printer start to do the print job.it is active low. To use the triggered printing function, please enter the printer panel menu to enable the “TRIGGER PRINT” setting.
b. When the print job is finished, the output pin of End Print will send a low pulse (100ms), and the external device should turn off the Start Print signal.
c. When data to be printed is received, the output pin of Data Ready will active low.
d. The timing chart is shown in Figure 4.

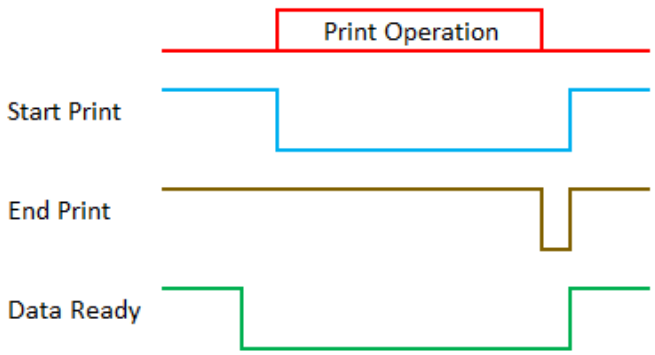


Figure 4

(2) Pin 4

Feed:

a. The signal is to let the printer feed the media; the internal label length sets the distance.
b. During feed processing, the output pin of Data Ready will be active and disabled till the end of the feed.
c. The timing chart is shown in Figure 5.

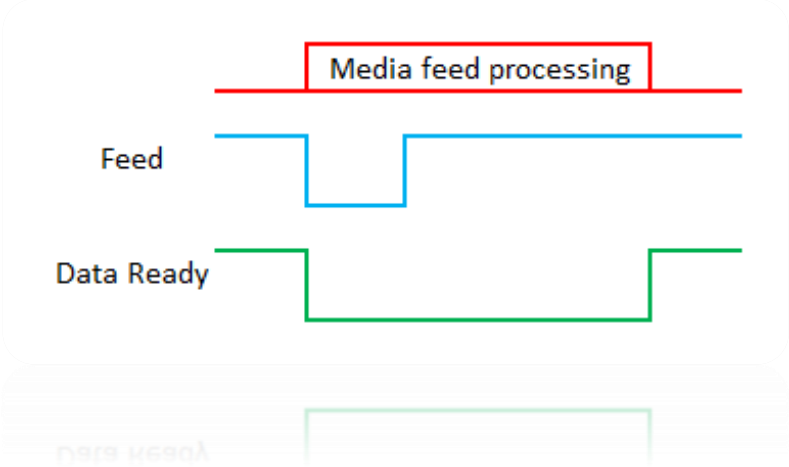


Figure 5

(3) Pin 5

Pause:

a. The signal causes the printer to pause action; it is a toggle (on/off) mode when the printer needs to be temporarily stopped.
b. During pause processing, the output pin of Output Fault will be active low and disabled until the pause signal is active again.
c. The timing chart is shown in Figure 6.

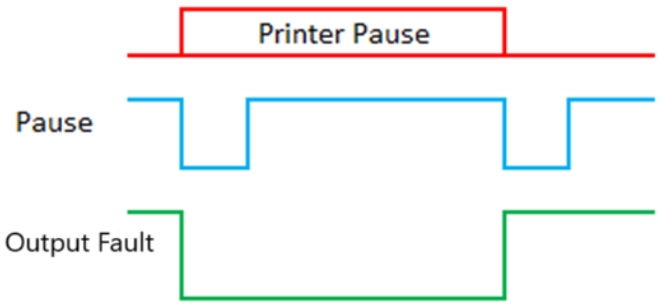


Figure 6

(4) Pin 6

Reprint:

a. This signal makes the printer print the last label again; it is active low.
b. When the print job is finished, the output pin of End Print will send a pulse (100ms), and the external device should turn off the Re-Print signal.
c. The output pin of Data Ready will be active and disabled till the end of printing.
d. The timing chart is shown in Figure 7.

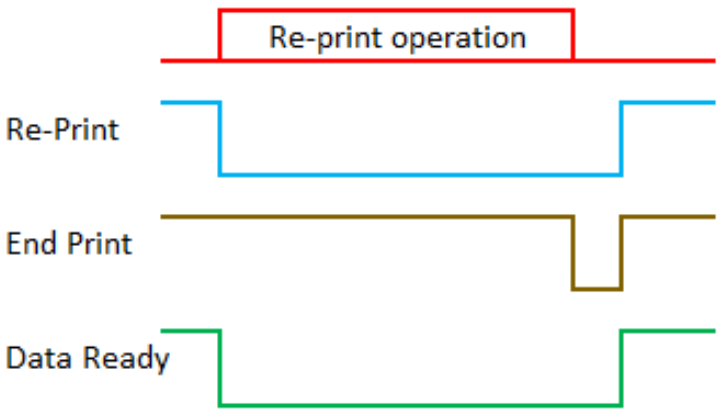


Figure 7

3.2 There are six output pins for the printer's application; the timing chart is shown in Figure 8.

(1) Pin 10

Serv_Req:

a. When the printer prints, this output signal will change from low to high level.
b. If a printer error occurs, this output signal will change from high to low level.

(2) Pin 11

End Print:

a. It indicates the printer's status and is active when the printing page is complete.
b. The action timing is about 100ms.

(3) Pin 12

Media out:

a. It indicates the media status and is active when media (paper) out occurs.
b. This signal persists until the error condition is removed.

(4) Pin 13

Ribbon out:

a. It indicates the ribbon status and is active when ribbon out occurs.
b. This signal persists until the error condition is removed.

(5) Pin 14

Data Ready:

a. It indicates the printer has received print data.
b. In this state, the printer could accept the input Start Print signal to start the print job.

(6) Pin 15

Output Fault:

a. It indicates all the printer's error status. If it is active, please perform the troubleshooting procedure.
b. This signal persists until the error condition is removed.

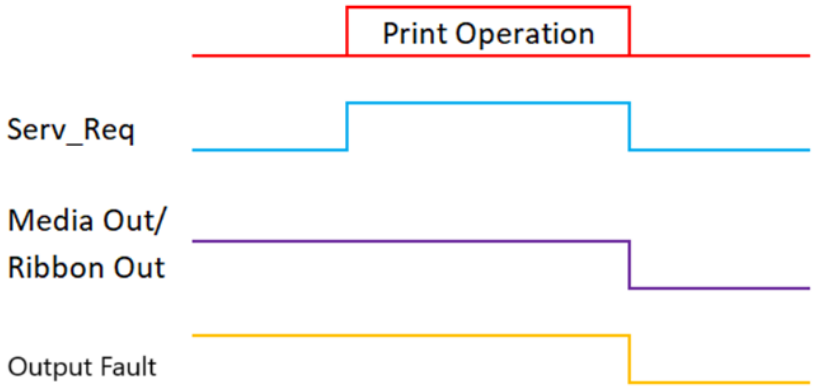
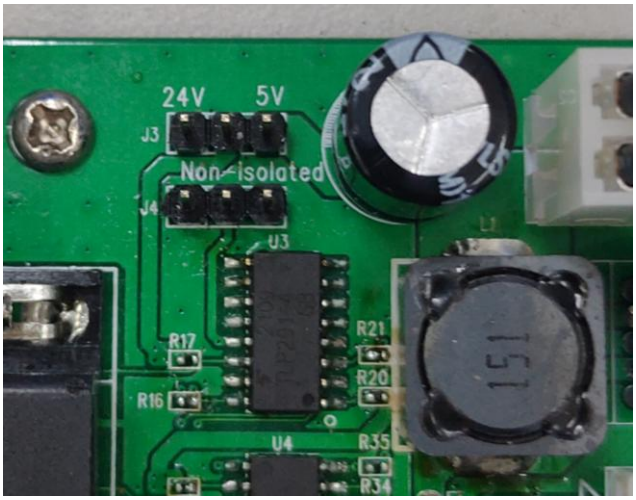
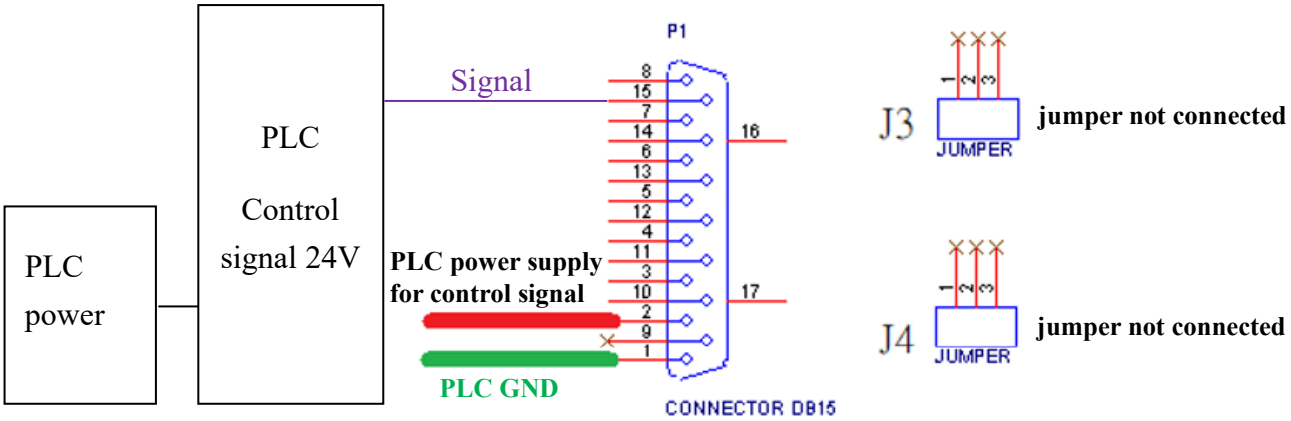


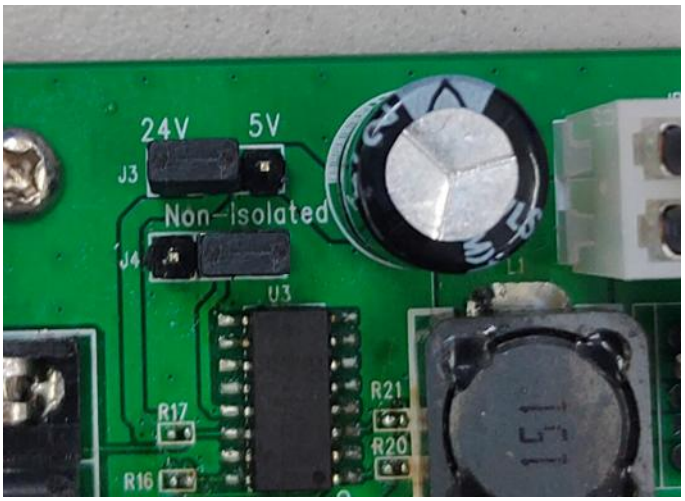
Figure 8

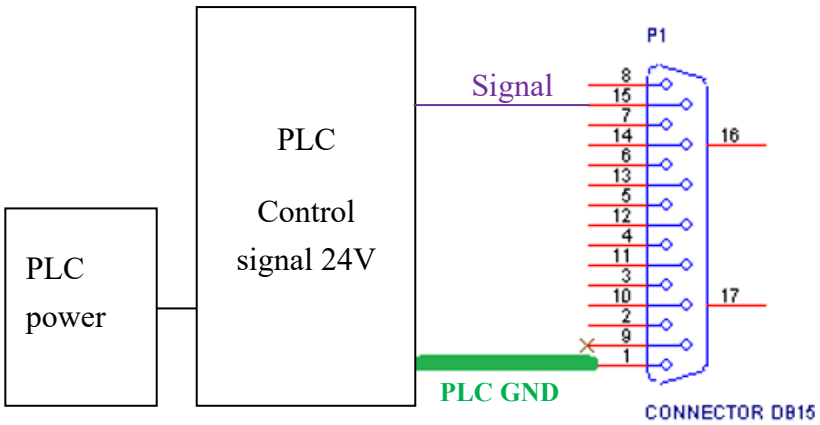
Case 1: External Power Supply 24V for control signal (for example, PLC)

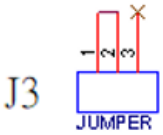




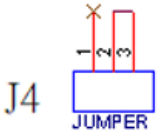
Case 2: Printer Power Supply 24V for control signal (for example, PLC)





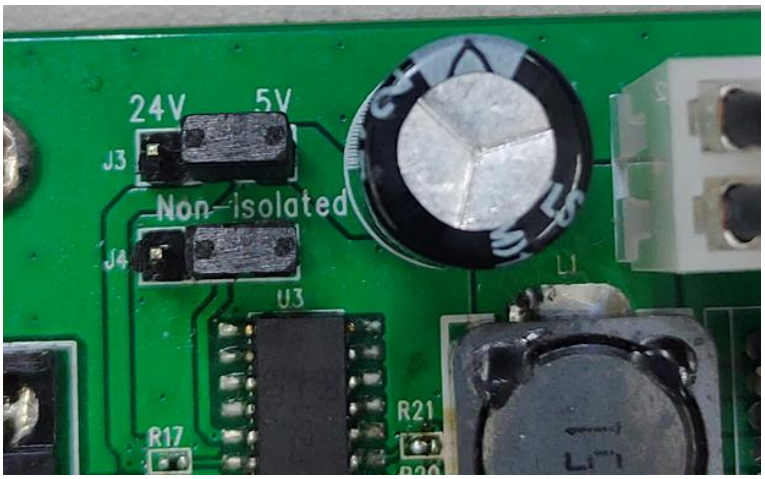


jumper connecting pins 1 and 2



jumper connecting pins 2 and 3

Case 3: Printer Power Supply 5V for control signal (for example, PLC)



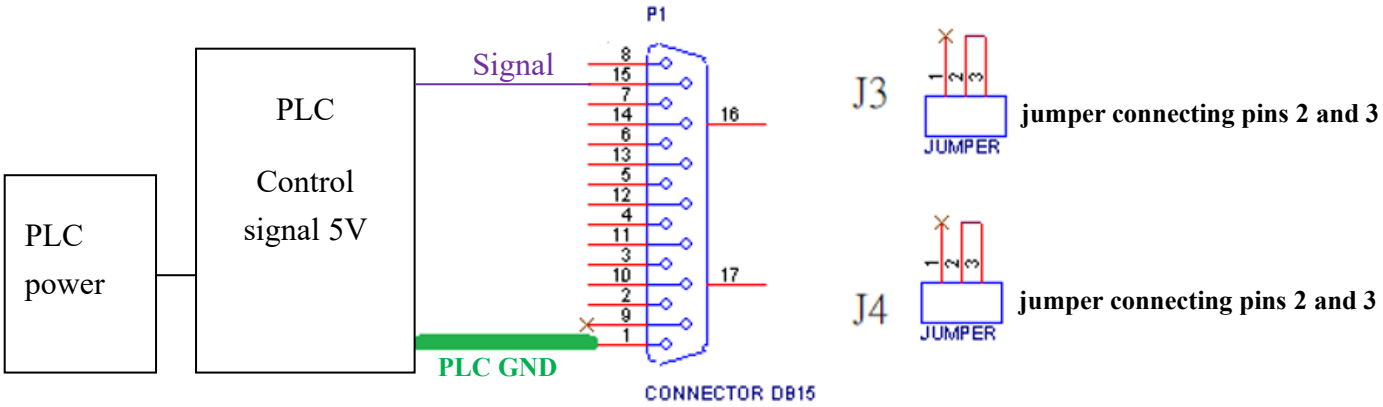


Figure 9

J3：

Pin No.	Type	Default Function	Description
1	P	24V	Printer power supply 24V for control signal
2	P	PLC power supply for control signal	PLC power supply for control signal
3	P	5V	Printer power supply 5V for control signal

J4：

Pin No.	Type	Default Function	Description
1	-	N/C	No Connect
2	P	PLC GND	PLC power supply return path for control signal.
3	P	Printer GND	Printer power supply return path for control signal.