



GPIO Interface Control

Operation Manual

Applicable Models: I4/iX4 Series



<https://www.argo.com>

Version: 1.0

1. Specifications

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

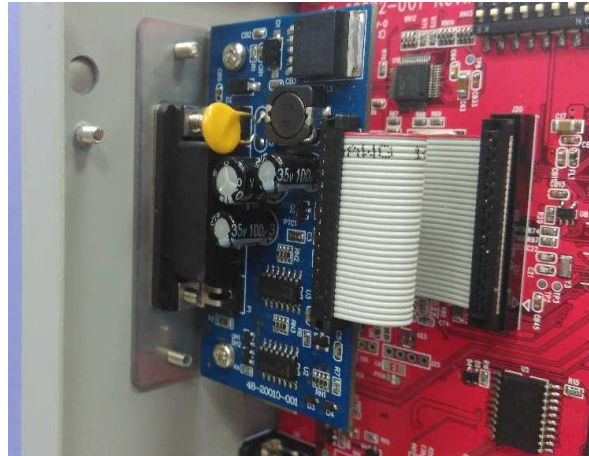
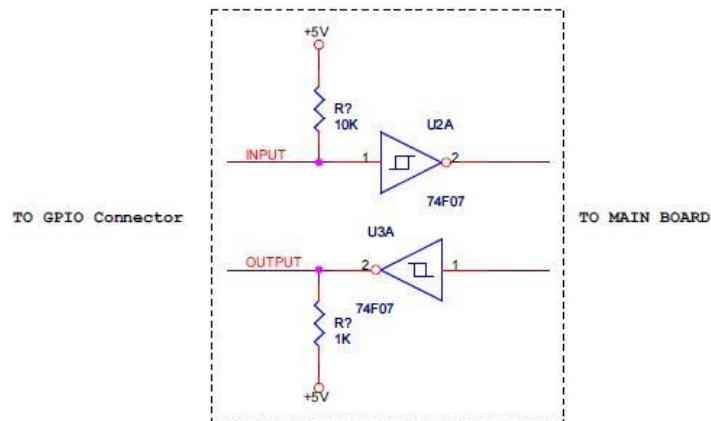


Figure 1 Installation of a GPIO card onto the industrial printer

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 as shown in Figure 2 and Figure 3; it uses a D-Sub 15-pin female connector.

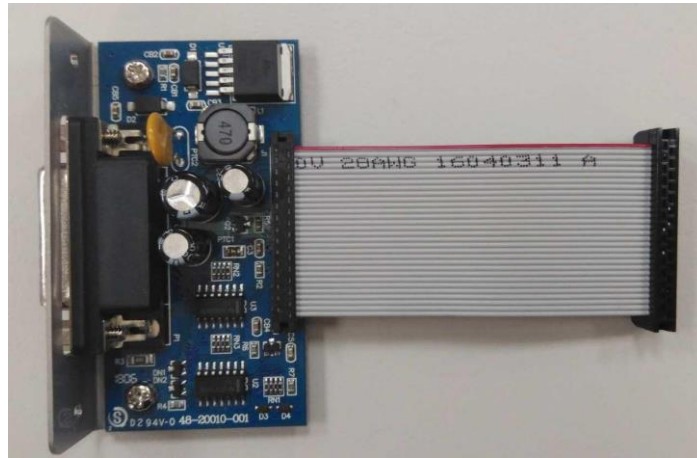


Figure 2 GPIO board



Figure 3

1.4 Connector pin definitions are as follows:

Pin No.	Type	Default Function	Description
1	P	GND	Power return path of +5V
2	P	+5V	Power plus path of +5V
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's the same as the "FEED" key on the panel.
5	I	Pause	Pause. When this signal is triggered (high to low), the printer pauses or 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	Power plus path of +24V
8	P	GND	Power return path of +24V
9	NC	Not Connect	
10	O	Serv_Req	Service required. When a printer error occurs, this output signal will change from high to low (active low).
11	O	End Print	End of print. Output a low pulse signal in 20ms at the end of printing.
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	OPT Fault	Output fault. When a printer error occurs, this output signal will change 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 of the input pins in the table are defined as standard TTL levels.

2.2 All of the output pins in the table are defined as standard TTL levels; they are pulled up 1K ohm internally by 5V, and the maximum sink current is 30mA.

2.3 There are two power supplies for external devices; the maximum supply current of 5V is 500mA, and 24V is 1A.

2.4 Because all of the signals were not isolated, the ground (pin1 and pin8) of the GPIO board and the signal ground of the external device need to connect directly; it should avoid different GND pins connecting the GPIO board and making this board fail.

2.5 Suggest that the length of the connecting cable between the GPIO interface and the external device should be less than 15 feet to avoid noise and errors.

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.
- b. When the print job is finished, the output pin of End Print will send a low pulse (20ms), 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.

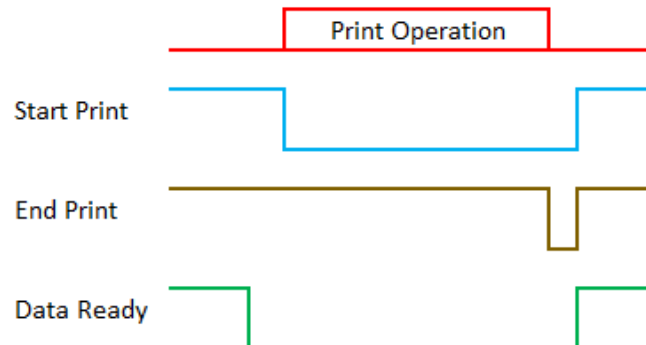


Figure 4

(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.

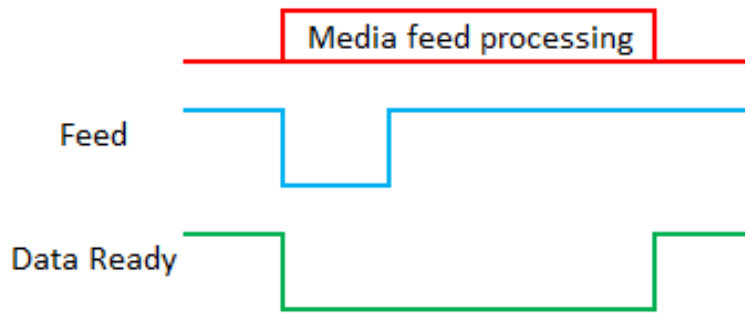


Figure 5

(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 OPT Fault will be active low and disabled until the pause signal is active again.
- c. The timing chart is shown in Figure 6.

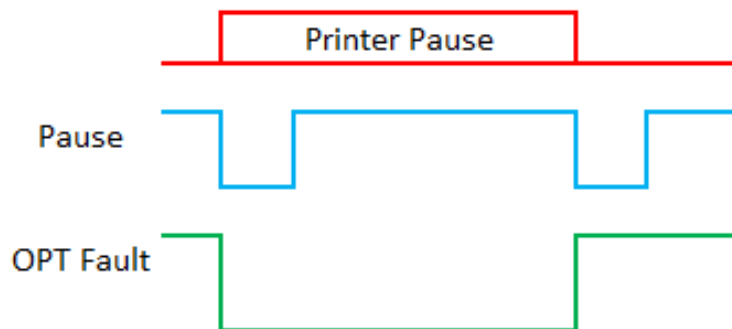


Figure 6

(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 (20ms), 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.

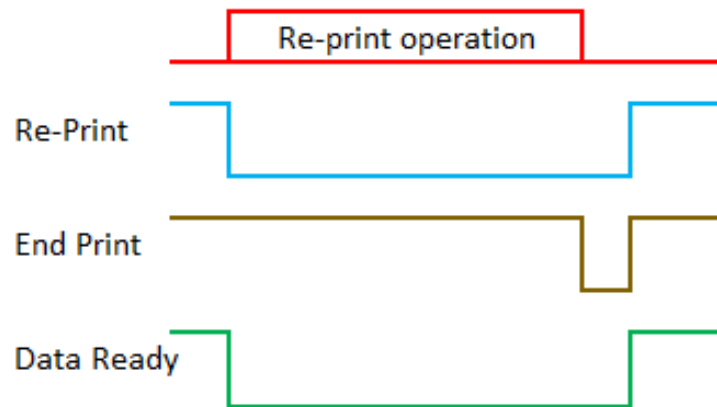


Figure 7

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. The signal will be active when a printer error occurs.

(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 20ms.

(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

OPT 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.

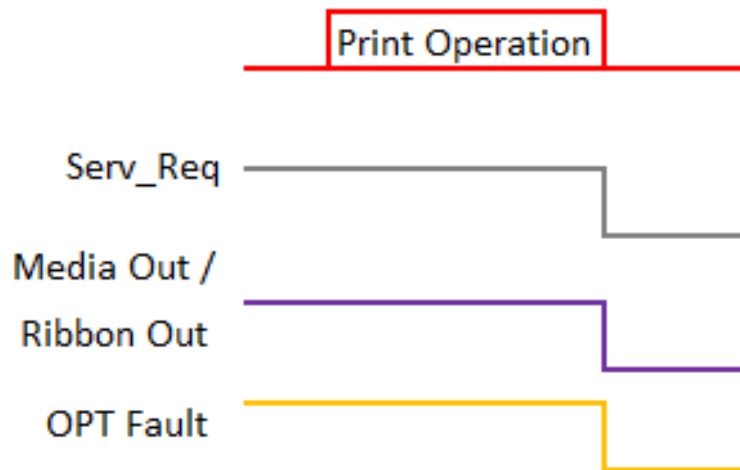


Figure 8