

IDENTjet M4 printer GPIO (General Purpose Input Output) module functions

FW versions V2.Y2Y and up
 Applicator modes: Mode (1-4)

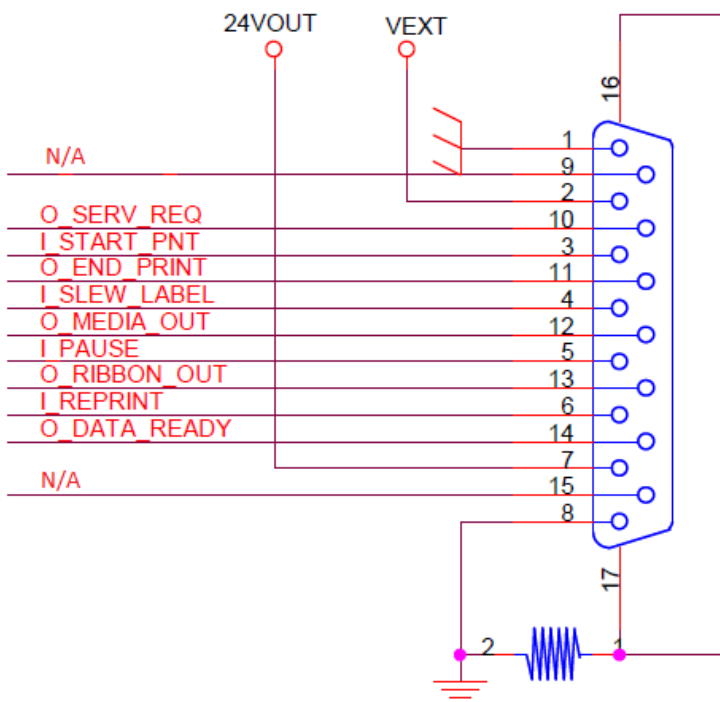


Figure 1 GPIO board pinout and physical layout

GPIO interface is a discrete interface designed for communication between devices (e.g. use with automatic label applicator; trigger printing by photo sensor or PLC; provide fault signals from printer to peripheral system (traffic lights, etc.) and other applications involving peripherals). IDENTjet Applicator interface support several operation profiles (modes).

GPIO interface has DB15 female connector, which contains these opto-coupled inputs and outputs:

- 4 inputs: START PRINT (trigger), FEED, PAUSE, REPRINT
- 5 outputs: SERVICE REQUIRED, END PRINT (printing), MEDIA OUT, RIBBON OUT, DATA READY
- +24 V internal printer Voltage (can be used to power e.g. sensor)
- GND

DB15 Pin description:

PIN Nr.	FUNTION	TYPE
1	GROUND	GROUND
	GND _{ext}	INPUT external ground GND _{ext} , if external power is used.
2	+5V, MAX. 500mA OR +24V, MAX. 1.5A	5/24 V depending on jumper configuration
	V _{ext}	INPUT external power V _{ext} , if external power is used.
3	START PRINT	INPUT SIGNAL
4	FEED LABEL	INPUT SIGNAL
5	PAUSE	INPUT SIGNAL
6	REPRINT	INPUT SIGNAL
7	+24V OUT	+24V Output (from printer)
8	UNASSIGNED	GROUND (from printer)
9	UNASSIGNED	N.A.
10	SERVICE REQUIRED	OUTPUT SIGNAL
11	END PRINT	OUTPUT SIGNAL
12	OUT OF MEDIA	OUTPUT SIGNAL
13	OUT OF RIBBON	OUTPUT SIGNAL
14	DATA READY	OUTPUT SIGNAL
15	UNASSIGNED	N.A.

Possible jumper configurations. Non-isolated with internal power is recommended when triggering device will be powered by the printer (sensor, button, etc.). Isolated with external power is recommended when external voltage will be used for inputs (PLC's, etc.), in this case, external power source should be connected to PIN's 1, 2 and accordingly configured Jumpers.

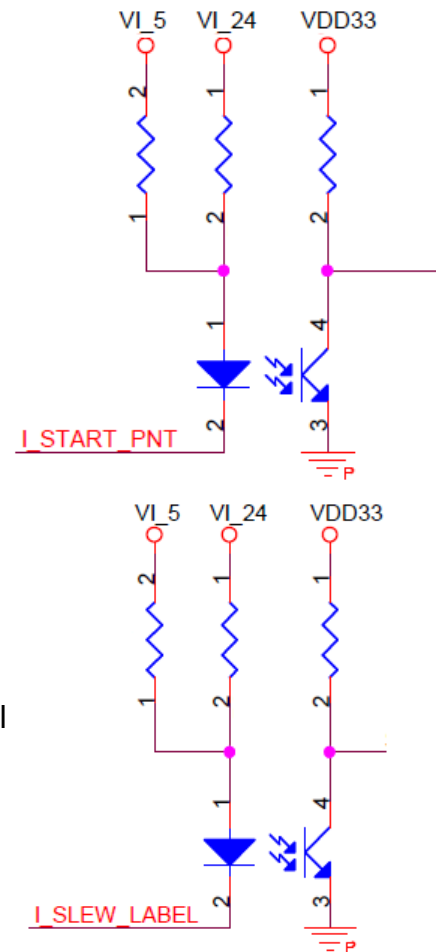
Non-isolated with internal 24V	Non-isolated with internal 5V
J4: Connected	J4: Connected
J5: Connect 2-3	J5: Connect 1-2
J6: Connect 2-3	J6: Connect 1-2
Non-isolated with external 24V	Non-isolated with external 5V
J4: Connected	J4: Connected
J5: N.C.	J5: N.C.
J6: Connect 2-3	J6: Connect 1-2
Isolated with external 24V	Isolated with external 5V
J4: N.C.	J4: N.C.
J5: N.C.	J5: N.C.
J6: Connect 2-3	J6: Connect 1-2

The most commonly used Input is the Start Print input. Used to trigger the printing of a label. Printjob must be already in printers memory and Applicator mode should be activated (^O2 setting in EZPL). Input is activated when current flows from PIN 3 to ground. That means when PIN 3 is connected to ground (level L), input is in active state.

Start print (PIN3):

Start print functionality has 4 Start modes, which can be selected by appropriate command.

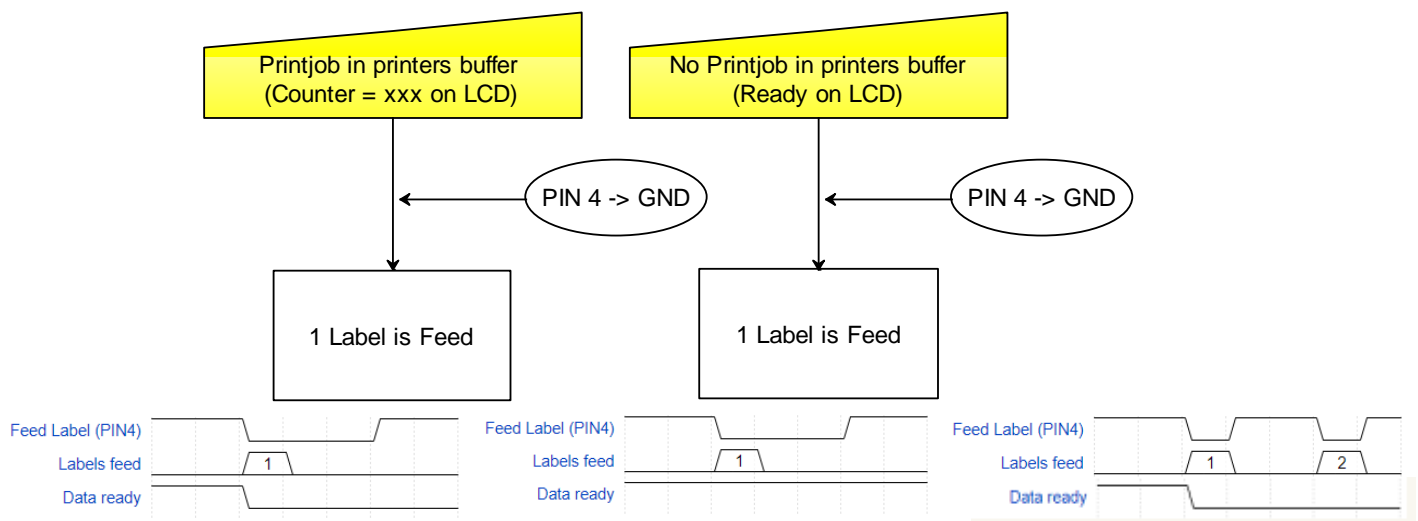
1. Level mode (^XSET,APPSTARTMODE,0) – Labels are being printed until PIN3 is L
2. Pulse mode (^XSET,APPSTARTMODE,1) – 1 Label is printed only on PIN3 transition from H->L
3. Pulse mode (^XSET,APPSTARTMODE,2) – 1 Label is printed only on PIN3 transition from L->H
4. Pulse mode (^XSET,APPSTARTMODE,3) – 1 Label is printed independent of the PIN3 transition direction, that means 1 label is printed both, on H->L and L->H.



Feed Label (Slew label) (PIN4):

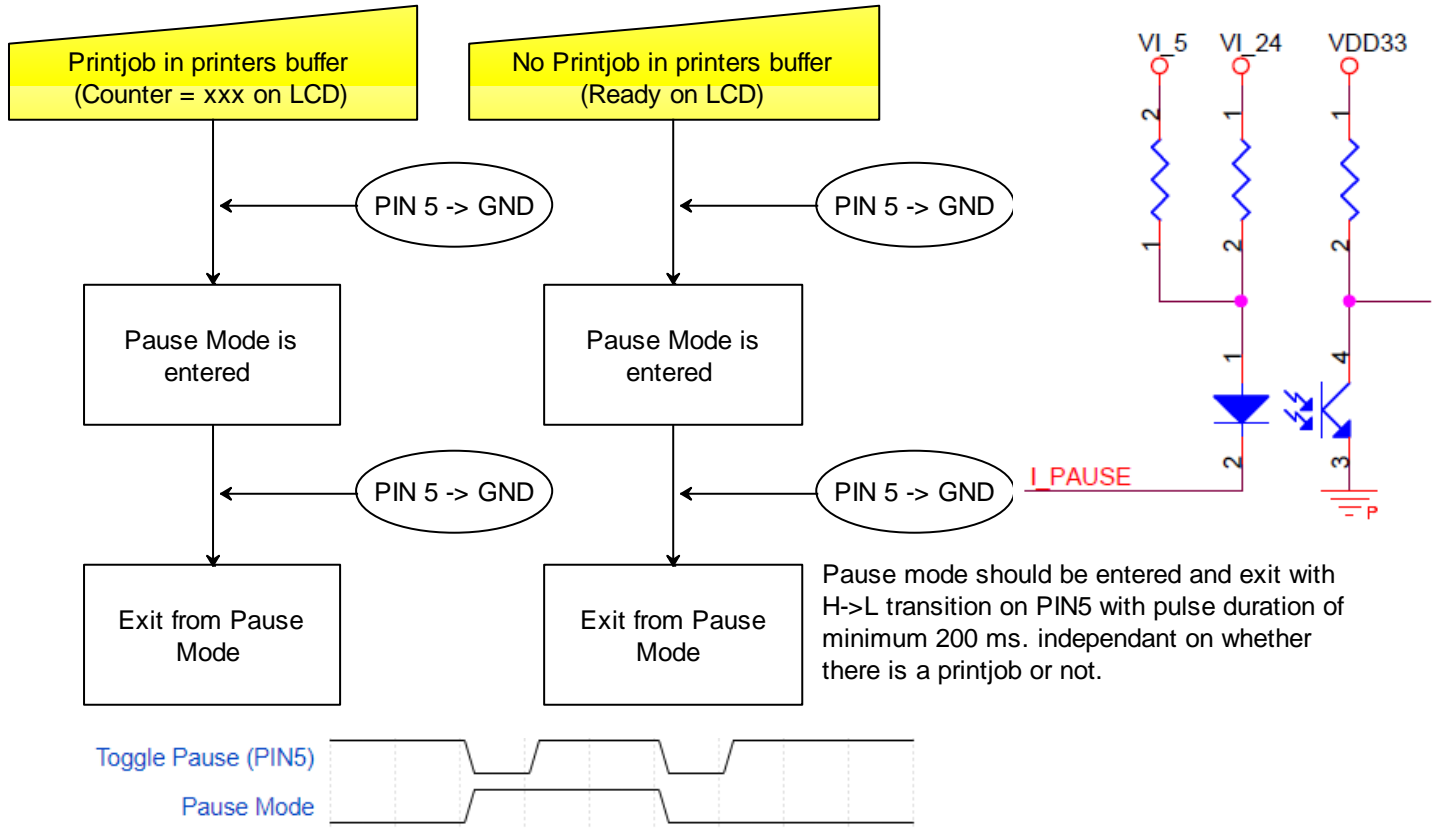
Feed function is working independently of whether there is a printjob in printers buffer or not, H->L transitions on PIN4 are treated as Feed trigger. See diagrams below:

When PIN4 level changed from H->L, independant on how long will take the duration when L level is there. Only H->L should trigger the Feed.



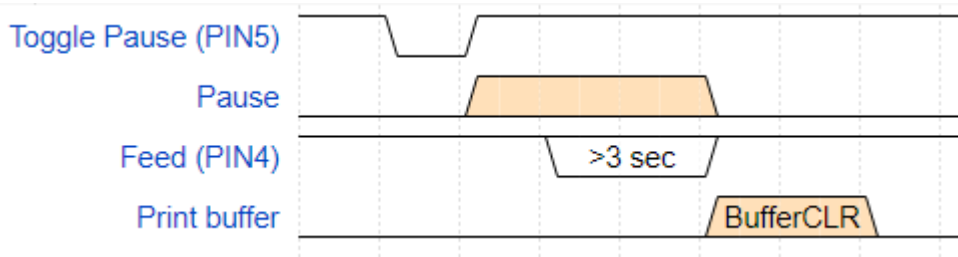
Pause (PIN5):

To enter Pause Mode the signal Level on PIN5 should be kept L at least 200 ms. (PIN5 H->L + >200 ms L) To exit Pause mode, the signal Level on PIN5 should be kept L at least 200 ms. (PIN5 H->L + >200 ms L). It is possible to enter Pause mode independently of whether there is printjob in buffer or not.



Clear printers buffer (delete all printjobs):

When in pause mode, the Feed signal is activated kept L for more than 3 secs, printer buffer is cleared (all printjobs in the printer are deleted), same as holding the front Feed button. After print buffer is cleared, printer returns automatically to Ready state.

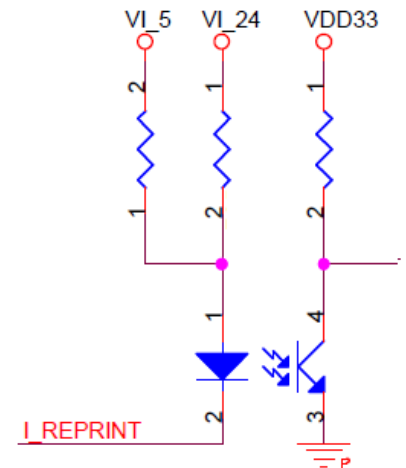


Reprint (PIN6):

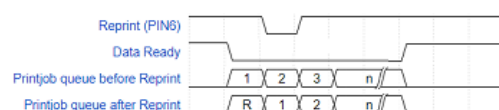
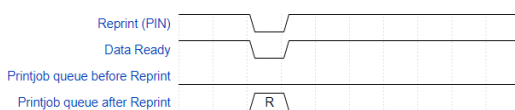
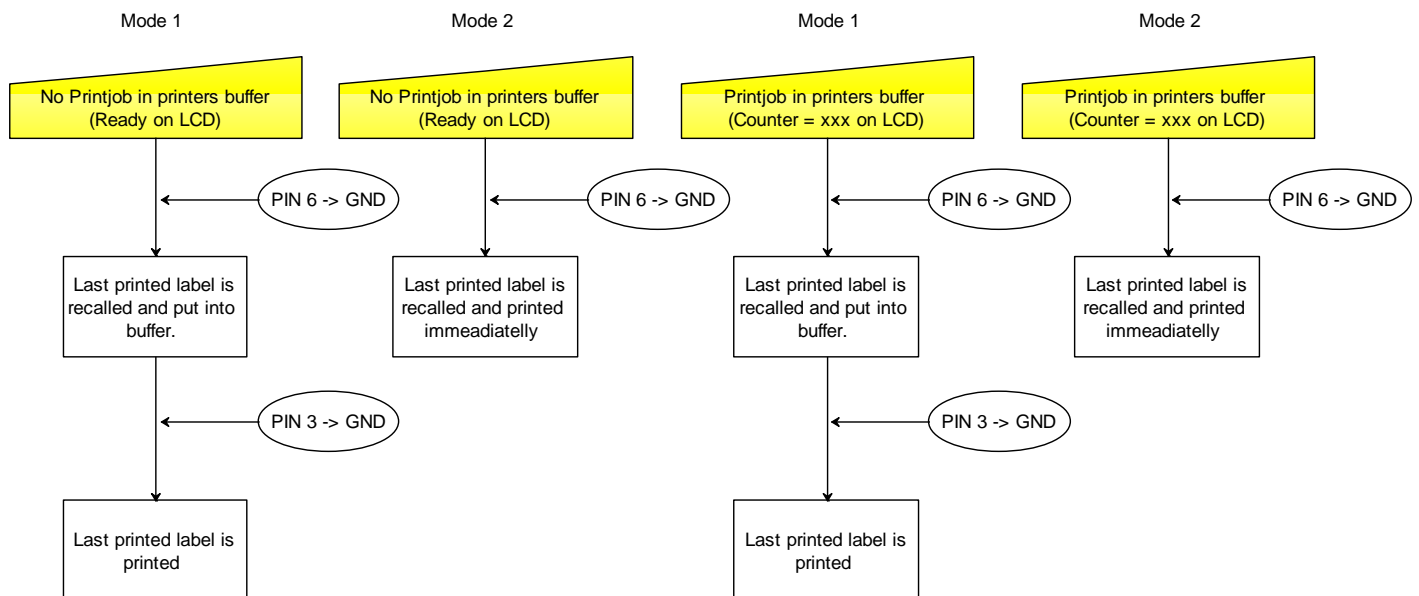
Reprint last printed label function is needed, if the last printed label was damaged, lost, media got empty, etc. When activated, last label (! 1 label !) that was printed last is recalled and printed identically as it was printed before, that means, if there were any variables transferred from other systems, devices, counters, databases, RTC, etc. to be printed in the label, they stay completely the same as they were printed in the last label that was printed before.

Reprint function has two possible operation modes:

- Mode 1.** Recall the last printed label and put it into the buffer queue to be printed first. If ^O2 is activated, wait until pulse on PIN3 (Start print signal). *This is the default setting.*
- Mode 2.** Recall the last printed label and put it into the buffer queue to be printed first and print this one label immediately independent on the ^Ox setting.



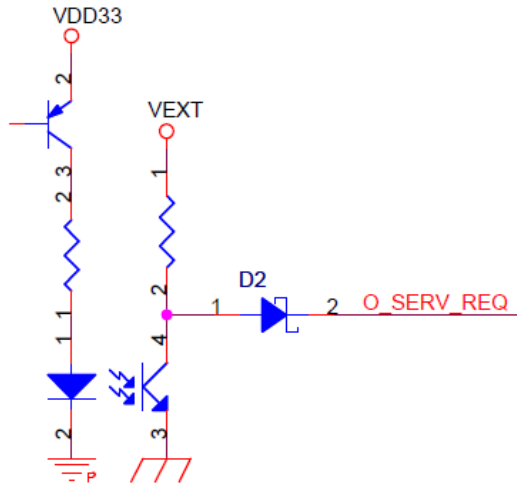
Syntax	^XSET,REPRINTMODE,x
Parameter	x=1, if ^O2 is activated, wait until trigger signal on PIN3. x=2, print one label immediately independent on the ^Ox setting.
Description	Works with firmware version V2.Y2Y or later
Example	^XSET,REPRINTMODE,1 (Detect Start Print signal) ^XSET,REPRINTMODE,2 (Ignore Start Print signal)



Outputs:

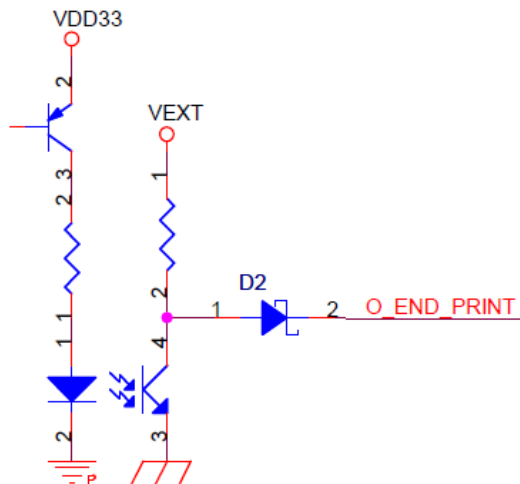
Service required (PIN10):

H->L when there is any kind of error.



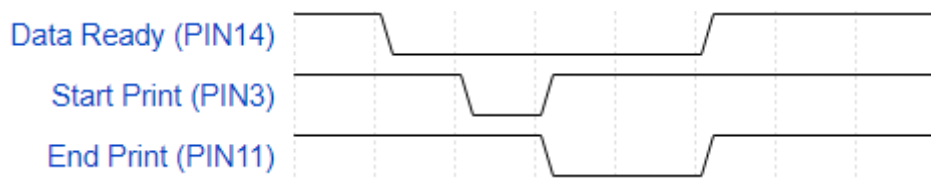
End print (PIN11):

Pulse when printing is finished. The timing diagrams of this output are dependent on the selected Mode.

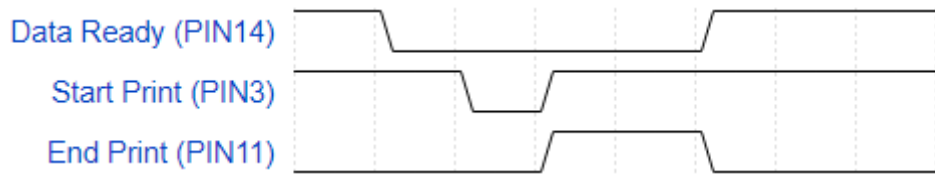


There may be 4 modes, which can be selected by command ^XSET,APPLICATOR,0,x , where x is the mode number:

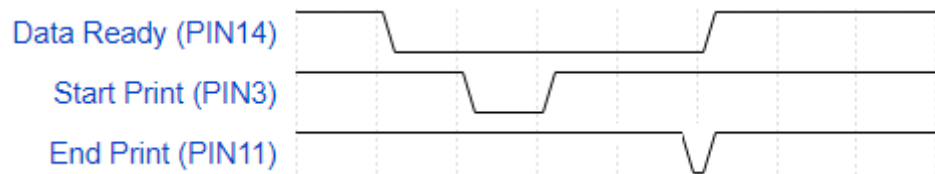
Mode 1 ^XSET,APPLICATOR,0,1



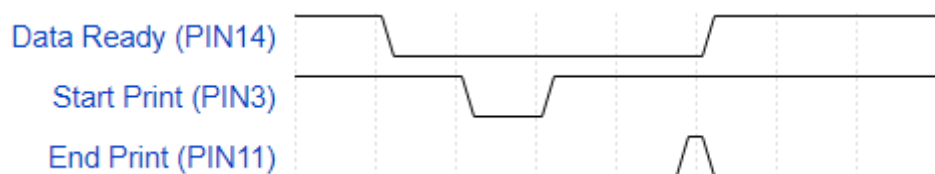
Mode 2 ^XSET,APPLICATOR,0,2



Mode 3 ^XSET,APPLICATOR,0,3



^XSET,APPLICATOR,0,4



Check Media (PIN12):
H->L when there is media error.

Check Ribbon (PIN13):
H->L when there is ribbon error.

Data Ready (PIN14):
H->L when data is in the buffer

