

3.2.7 Standard IO

The Standard IO provides inputs for several types of external devices as shown in [Figure 3-25](#). The various connections made from the Standard IO is provided in [Figure 3-25](#).

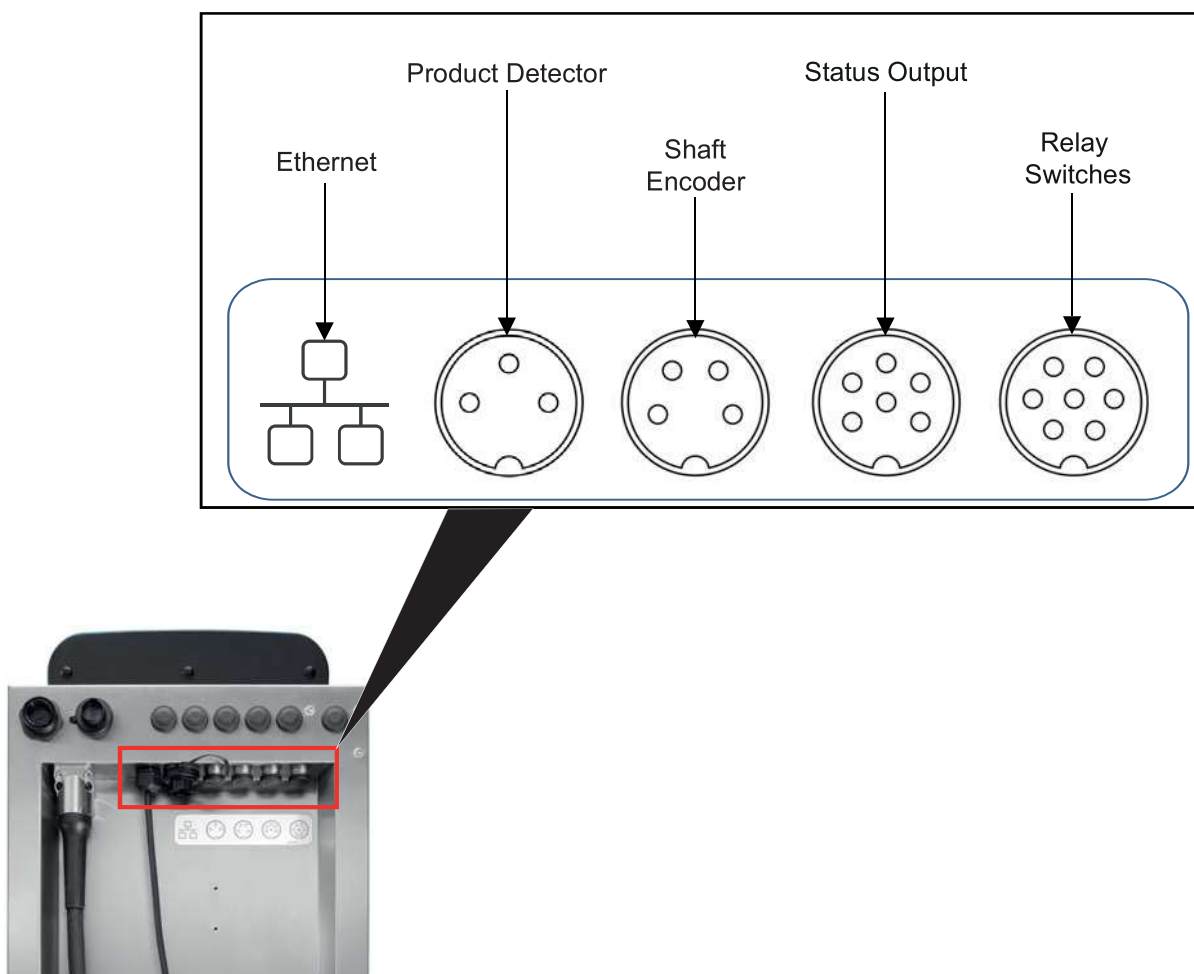


Figure 3-25: Standard IO

3.2.7.1 Ethernet Connector

The Ethernet connector is used to connect the printer to a remote computer or network to import data or control the printer remotely.

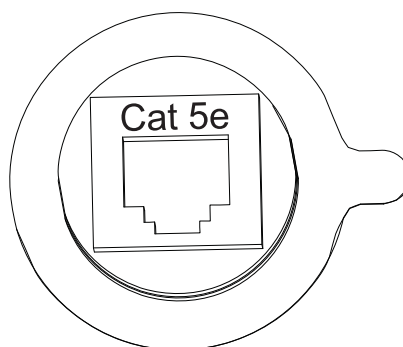


Figure 3-26: Ethernet Connector

Note: [Figure 3-26](#) represents the view of the connector from the back of the printer.

3.2.7.2 Product Detector (Print Trigger) 1 Connector

The product detector connector, detects the product and informs the printer, when to print on the product. The printer provides a +15 VDC, 200 mA output for use by a photoelectric cell (PEC), inductive proximity detector. The print trigger connector is a 3 way DIN connector. The pin functions are shown in Table 3-10.

Note: Photoelectric cell (PEC) is also called as inductive proximity detector or product detector.

The default configuration is NPN (current sinking input). This input can be changed to PNP (sourcing input) with the movement of a jumper located on the back of the touch screen display. If the input is configured for PNP the maximum input voltage will be +24 VDC and the maximum current is 60 mA.

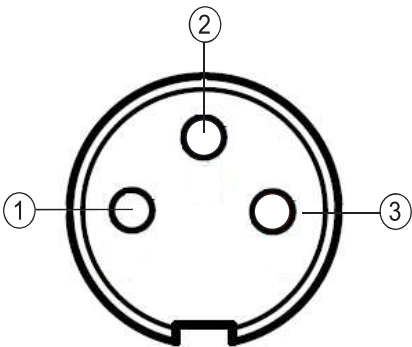


Figure 3-27: Print Trigger 1 Connector Pin Diagram

Note: Figure 3-39 represents the view of the connector from the back of the printer.

Pin	Function
DIN Pin 1	+15 VDC supply to sensor
DIN Pin 2	Sensor output
DIN Pin 3	0 VDC common

Table 3-1: Print Trigger 1 Connector Pinouts

Note: The mating cable (male, 3 pin DIN connector -P/N: 500-0036-578) is used to interface other product detectors to the printer.

3.2.7.3 Shaft Encoder Connector

The printer provides a nominal +15 VDC, 200 mA output for use by a shaft encoder with a maximum frequency of 100 kHz. The printer looks for NPN open collector input for the encoder signals. The printer uses pulses (leading and trailing edges) from both channels (Channel A and Channel B) of the shaft encoder. For more information, refer [Line Speed](#). The shaft encoder connector is a 4 way DIN connector. The pin allocation is shown in [Table 3-2 on page 3-19](#).

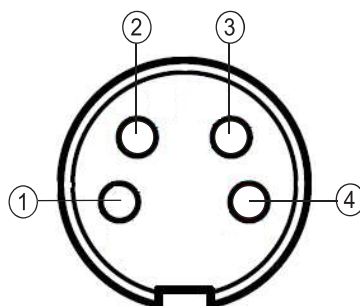


Figure 3-28: Shaft Encoder Connector Pin

Note: [Figure 3-28](#) represents the view of the connector from the back of the printer.

Pin	Function
DIN Pin 1	+15 VDC supply to shaft encoder
DIN Pin 2	Shaft encoder input 'A'
DIN Pin 3	Shaft encoder input 'B'
DIN Pin 4	0 VDC common

Table 3-2: Shaft Encoder Connector Pinouts

Note: The shaft encoder output must be of the PUSH/PULL type.

Note: The mating cable (male, 4 pin DIN connector - P/N: 500-0036-581) is used to interface other shaft encoders to the printer.

3.2.7.4 Status Output Connector

The printer provides an output for a set of status lights through the status output connector. This provides +24 VDC output, the printer will switch in a ground to turn on the light. This is a 6- way DIN connector. The pin allocation is shown in [Table 3-3 on page 3-20](#) and [Figure 3-29](#).

Lamp color	Function
Green	Print Ready Output
Yellow	Warning Output
Red	Fault Output

Note: For 24 VDC, the maximum current rating is 900 mA.

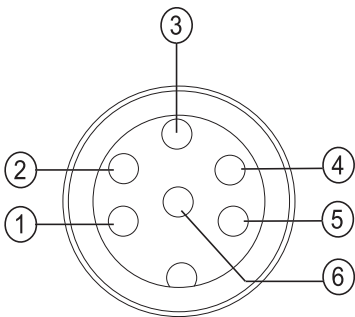


Figure 3-29: Status Output Connector Pin Diagram

Note: [Figure 3-29](#) represents the view of the connector from the back of the printer.

Pin	Function
DIN Pin 1	Red lamp negative supply
DIN Pin 2	Amber lamp negative supply
DIN Pin 3	Green lamp negative supply
DIN Pin 4	+24 VDC supply to the strobe/siren
DIN Pin 5	Strobe/siren negative supply
DIN Pin 6	+24 VDC common to the traffic lights

Table 3-3: Status Output Connector Pinouts

Note: The mating cable (male, 6 pin DIN connector - P/N: 500-0036-577).

3.2.7.5 Relay Switches

The relay switches connector (see [Figure 3-25](#)) is a 7 way DIN connector. This connector supports the following relays:

- Relay 'A', you can use the relay to provide a 'Print Ready' output.
- Relay 'B', you can use the relay to provide a 'Warning' output.

Maximum Contact Loading

0.5 A @ +24 VDC

These relays have electrical ratings of 1 - 30 VDC, 300 mA maximum. It is suggested to use +24 VDC. For example, if the printer is in a print ready state, the normally open (N.O.) contacts closes and informs the host that the printer is in a print ready state. If the printer is removed from the print mode for any reason (removed from print), printer faults out, thus opens the contacts. The pin allocation is shown in [Table 3-4](#).

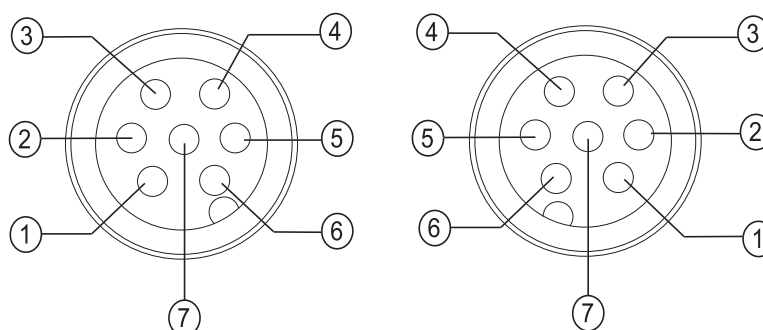


Figure 3-30: Relay Switches Connector Pin Diagram

Note: Female connector (see [Figure 3-30](#)) represents the view of the connector from the back of the printer.

Connector Pin		Function	Wire Color
Female Pin	Male Pin		
DIN Pin 1	DIN Pin 6	Relay A - Normally open contact	White
DIN Pin 2	DIN Pin 5	Relay A - Normally closed contact	Red
DIN Pin 3	DIN Pin 4	Relay A - Common contact	Black
DIN Pin 4	DIN Pin 4	Relay B - Normally open contact	Green
DIN Pin 5	DIN Pin 2	Relay B - Normally closed contact	Blue
DIN Pin 6	DIN Pin 1	Relay B - Common contact	Brown
DIN Pin 7	DIN Pin 7	Not used	-

Table 3-4: Relay Switches Connector Pinouts

Note: The mating cable - P/N SP378810 (male, 7 pin DIN connector - P/N: 500-0036-583).

Note: These outputs are cold contact relays. It will not supply control voltage to the host system. If the host is going to send a control voltage through these contacts, it is suggested to use +24 VDC.

3.2.8 Expanded IO

Additional connectivity is available through the addition of Expansion Board and RS232 connector as shown in [Figure 3-31](#) to the printer, for external devices.

There are two options available for expanded IO:

- RS232 connects to the MCB.
- Expansion board connects the additional IO.

The various connections made from the Expanded IO is provided in [Figure 3-31](#).

**Output signal from photocell/shaft encoder as configured within the UI.*

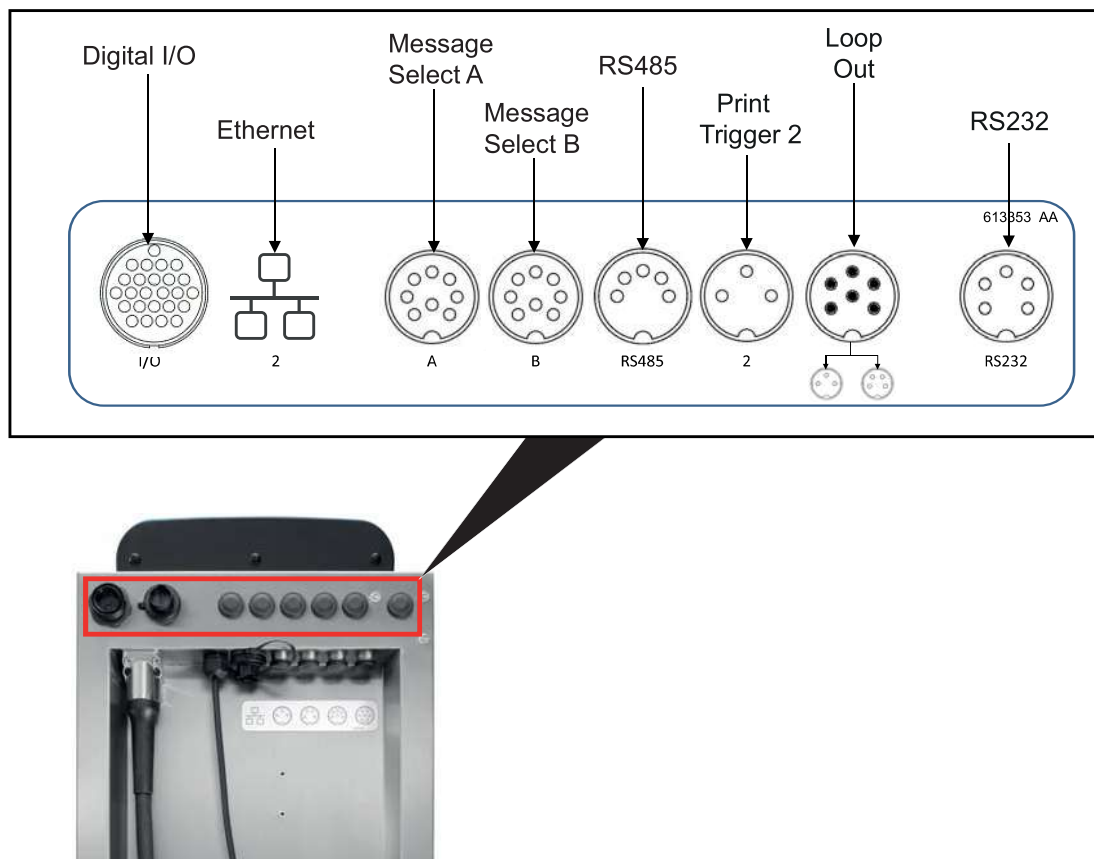


Figure 3-31: Expansion IO

3.2.8.1 Digital I/O

The I/O 25 way connector (Bulgin Connector) is as shown in [Figure 3-31](#).

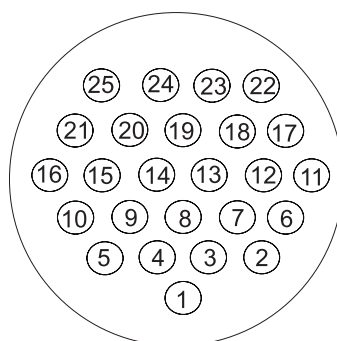


Figure 3-32: I/O 25 way Connector

Note: [Figure 3-31](#) represents the view of the connector from the back of the printer.

Pin	Function
1	+15 VDC Supply Voltage
2	N/A
3	N/A
4	N/A
5	N/A
6	Jet Stop (+)
7	Jet Stop (-)
8	Spare Input #1 (+)
9	Spare Input #1 (-)
10	Spare Input #2 (+)
11	Spare Input #2 (-)
12	Common
13	Power +12 VDC to +24 VDC (Customer Supply Voltage)
14	Print Complete (Open Collector)
15	Spare Output #1 (Open Collector)
16	Spare Output #2 (Open Collector)
17	Print Ready (Open Collector)
18	Warnings (Open Collector)
19	Faults (Open Collector)
20	Common
21	No Connection

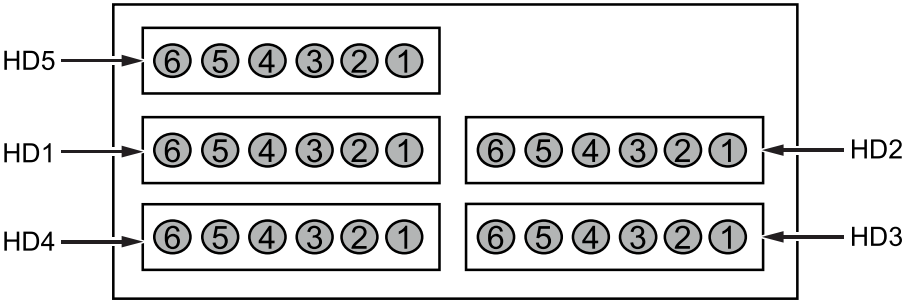
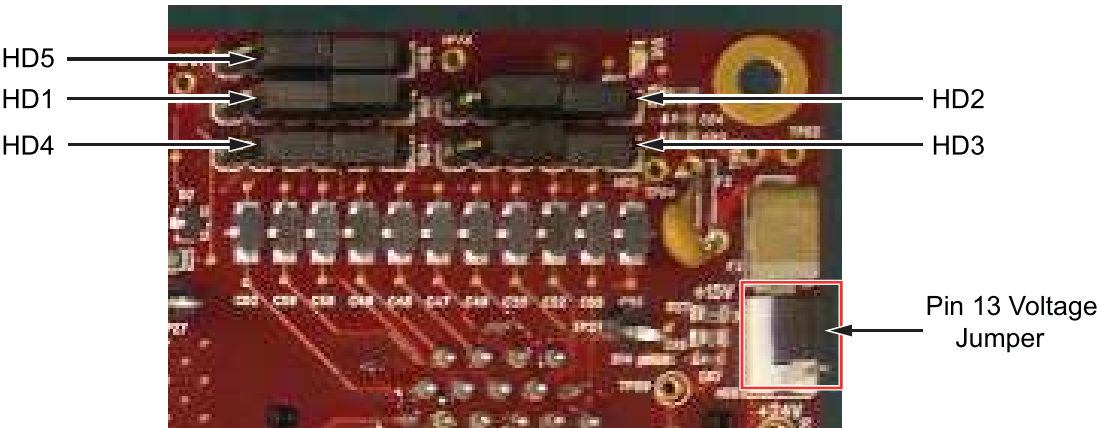
Table 3-5: I/O 25 Way Pinouts

Pin	Function
22	No Connection
23	No Connection
24	Chassis Ground
25	Chassis Ground

Table 3-5: I/O 25 Way Pinouts (continued)

Jumper Settings

Jumpers for the Digital I/O are located on the upper right corner of Expansion PCB (Figure 3-33).



DIGITAL Inputs and Jumper Positions

Figure 3-33: Jumper settings

Notes:

- Inputs can be configured for NPN or PNP configuration.
- Inputs can be configured for opto isolated fully customer supplied
- Outputs are only NPN currently sinking.
- The “HD” on the expansion PCB represents the input number of the pin.