PX45 and PX65 Interface Boards and Accessories

User Guide

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Customer Support

Technical Assistance

Go to honeywell.com/PSStechnicalsupport to search our knowledge base for a solution or to log into the Technical Support portal.

Product Service and Repair

Honeywell International Inc. provides service for all of its products through service centers throughout the world. Go to sps.honeywell.com and select Support to find a service center near you or to get a Return Material Authorization number (RMA #) before returning a product.

Limited Warranty

For warranty information, go to sps.honeywell.com and click **Support** > **Warranties**.

Safety Warnings

⚠ **Warning:** **Do not put your fingers inside the print mechanism when the power is on.**

⚠ **Warning:** **This printer contains a coin battery and is NOT user replaceable. Keep children away from the printer when the printer is in service.**

Never put batteries in your mouth as swallowing may lead to serious injury or death. If swallowed, seek medical attention immediately from a physician or local poison control center.

Caution Statements

⚠ **Caution:** **Observe all safety and accident prevention regulations applicable to your specific region and application.**

⚠ **Caution:** **You must implement both hardware and software safety precautions to prevent the possibility of undefined system states.**

Caution: You must make sure that dangerous conditions cannot occur under any circumstances, even for a brief period of time.

Caution: To reduce the risk of electric shock or fire, keep the cover closed and turn off the printer when not in use. There are no user-serviceable parts inside the power supply unit.

1

INTRODUCTION

Honeywell offers a full range of optional interface boards and accessories for the PX45 and PX65 printers.

The interface boards included in this guide are compatible with both PM45 and PX65 printers.

Interface Boards

- Industrial Interface Board
- Double Serial Industrial Interface Board
- IEEE 1284 Parallel Board
- RFID Interface Board
- Applicator Interface Board
- 802.11 Radio Interface Kit

Accessories

There are multiple accessories available for PX45 and PX65printers, see the table below for compatibility of each accessory.

Accessory	Compatible with PX45/PX65/Both
Cutter Module	Both

⚠ **Caution:** **Read and review the warnings in this manual carefully before connecting the printer.**

Set Up Printer for Installing Board/Accessories

You need to remove both the media cover and the electronics cover to install the interface boards or accessories.

You will require the below tools to remove the media and electronics cover.

• #T20 Torx Screwdriver

• Small wrench.

Warning: **Before you begin, turn off the printer and disconnect the power cord and communication cables.**

Warning: **The installation described in this section must only be performed by an authorized service technician. Honeywell assumes no responsibility for personal injury or damage to the equipment if the installation is performed by an unauthorized person.**

Warning: **Follow standard ESD guidelines to avoid damaging the equipment.**

Remove Electronics Cover

To remove the cover for PX45/PX65 printer,

1. Open the media cover and remove the eight screws #T10 torx screws that hold the left-hand cover.
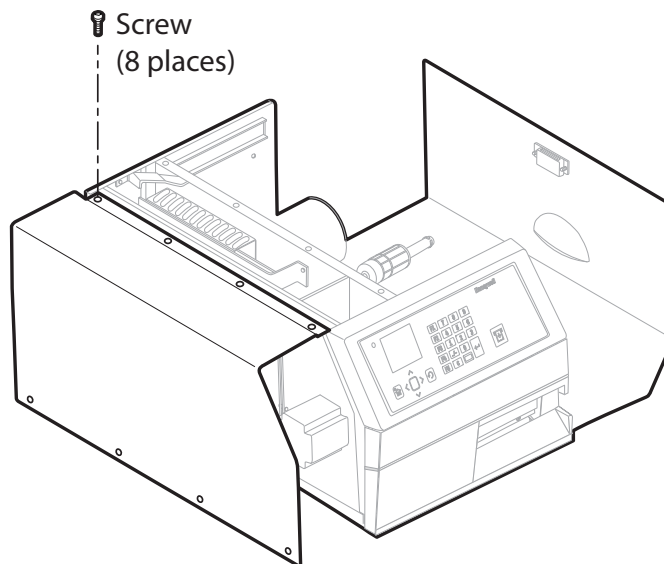
Screw
(8 places)

2. Put the cover aside on a soft cloth or similar to avoid scratches.

Remove Back Cover Plates

You can remove one or two cover plates depending on how many interface boards you are going to install. Each plate is held by two #T10 torx screws. Always start installation at the innermost position.
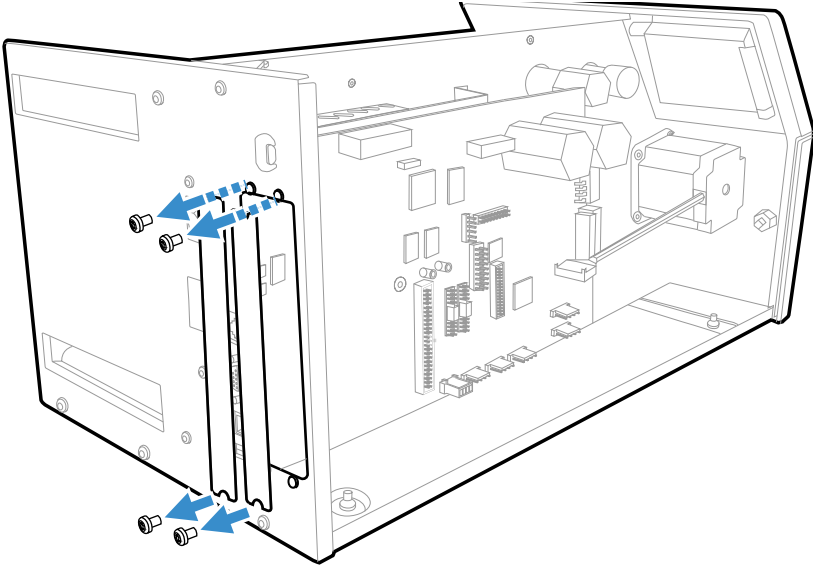
2 INSTALLING INTERFACE BOARDS

Industrial Interface Board

This section describes how to physically install the Serial/Industrial Interface Board in the printer and how to configure the serial communication port.

Out of the Box

The Industrial Interface Kit includes:

- One Serial/Industrial Interface Board
- One hexagonal spacer
- One spacer screw
- Two flat cables

The tools needed for installation are #T10 and #T20 Torx screwdrivers.

Installation

⚠ **Warning:** The installation described in this section must only be performed by an authorized service technician.
Honeywell assumes no responsibility for personal injury or damage to the equipment if the installation is performed by an unauthorized person.

⚠ **Caution:** Follow standard ESD guidelines to avoid damaging the equipment.

⚠ **Caution:** Before you begin, turn off the printer and disconnect the power cord and communication cables.

Follow the procedure to physically install the Serial/Industrial Interface board in the printer.

Note: *This procedure applies to both the PX45 and PX65. For simplicity, the PX45 is depicted in the illustrations.*

1. Turn off the printer and disconnect the power cord.

2. Disconnect all communication cables.

3. Remove the printer electronics cover (See page 2).

4. Remove the #T20 Torx screw fitted on the hexagonal spacer at the center of the CPU board. Keep the screw.

5. If necessary, reconfigure the interface board by fitting or removing circuits and straps according to the descriptions of each board.

6. Attach the flat cable included in the kit to connector on the CPU board.

7. Insert the interface board with the component side facing right, as seen from behind.

8. Installation of one board: Attach the interface board in the innermost slot in the printer's rear plate using the two screws left over when you removed the original cover plate. Using the #T20 Torx screw you previously removed, attach the interface board to the hexagonal spacer at the center of the CPU board.

9. Installations of two board: first install the inner board, then the outer one. Put the hexagonal spacer included in the kit between the inner and the outer interface board, and finally secure the outer board with the screw.

10. The kit contains two flat cables, one with two connectors for use with a single interface board and one with three connectors for use with double interface boards. Connect the appropriate flat cable to connector P1 on the interface board.

11. The flat cable should run as illustrated.

CPU Board

Spacer (existing)

Cable

Inner Interface Board

Screw (existing)

CPU Board

Spacer (existing)

Cable

Inner Interface Board

Screw (from kit)

Outer Interface Board

Screw (existing)

12. Put back the cover over the electronics compartment.

13. Connect the communication cables to the connectors on the printer's rear plate.

14. Connect the power cord and switch on the power.

15. In case the interface provides additional serial communication ports, enter the Setup Mode to set the proper communication parameters for these ports.

Left–hand slot	Ports	Right–hand slot	Ports
Double Serial	uart2: + uart3:	–	–
Double Serial	uart2: + uart3:	Double Serial	uart4: + uart5:
Double Serial	uart2: + uart3:	Serial/Industrial	uart4:
Double Serial	uart2: + uart3:	IEEE1284	centronics:
Serial/Industrial	uart2:	–	–
Serial/Industrial	uart2:	Serial/Industrial	uart3:
Serial/Industrial	uart2:	Double Serial	uart3: + uart4:

Left-hand slot	Ports	Right-hand slot	Ports
Serial/Industrial	uart2:	IEEE1284	centronics:
IEEE1284	centronics:	–	–
IEEE1284	centronics:	Double Serial	uart2: + uart3:
IEEE1284	centronics:	Serial/Industrial	uart2:

Remarks

- The left-hand slot is the slot closest to the center section.
- Always start by fitting an interface board in the left-hand slot.
- RS-485 is only supported by "uart2:"

Serial Interface

This section describes how to modify the interface board for RS-232 (standard), RS-422 isolated/full duplex, or RS-485 isolated/half duplex on the "uart2:" port and explains the configuration of the interface connector.

One of the circuits shown below will be needed for the serial communication you want to use.

Serial Communication	Honeywell Part Number	Integrated Circuit	Remark
RS-232 Non-isolated	360-018-001	Maxim 238	Already mounted on board
RS-422 isolated full duplex	360-027-001	Maxim 1490 full duplex RS485/422 Intfc, 250Kbps RoHS	Not included in kit, needs to be purchased
RS-485 isolated half duplex	360-026-001	Maxim 1480 half duplex RS485/422 Intfc, 250Kbps RoHS	Not included in kit, needs to be purchased

> ⚠ **Warning: When fitting driver circuit and straps before installing the interface board, make sure the circuit is not fitted upside down. Protect the board and circuits from the electrostatic charges**

RS232 Non-isolated (Standard)

Strap fitted on P3: 1-2

RS-232 circuit fitted on SKT3
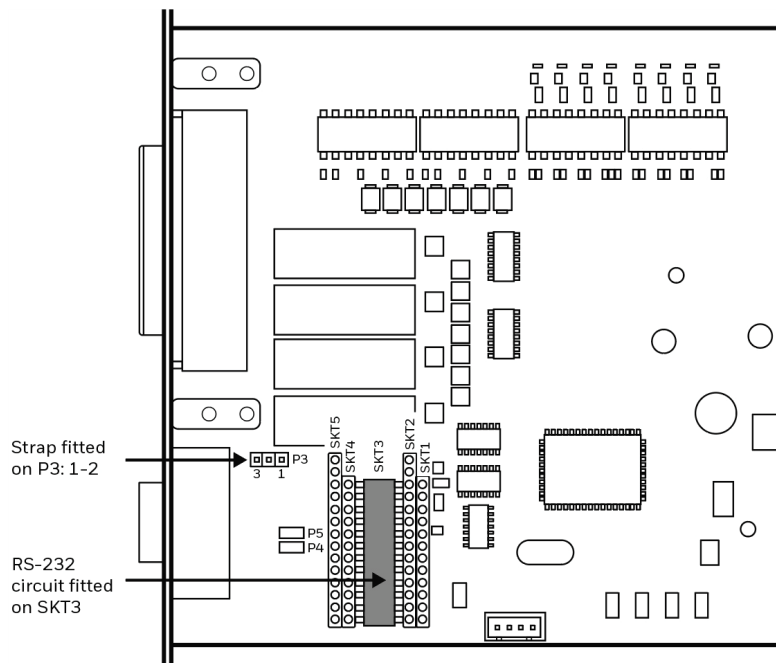
Connector Configuration (RS-232 on "uart2")

RS-232 Socket	Pin of DB9	Signal Name	Description
	1	+5VDC	External +5VDC max 600mA (automatic switch off at overload, short-circuit protected)
	2	TXD	Transmit data
	3	RXD	Receive data
	4	DSR	Data set ready
	5	GND	Ground
	6	DTR	Data terminal ready
	7	CTS	Clear to send
	8	RTS	Request to send
	9	–	–

RS-422 Isolated, Full Duplex (reconfiguration required)

Note: *The RS-422 circuit is available as a spare part.*

Strap fitted on P3: 1–2, if external +5VDC is required

Straps fitted on P4 & P5

RS-422 circuit fitted on SKT1&SKT4

Connector Configuration (RS–422 on "uart2")

RS–422 Socket	Pin of DB9	Signal Name	Description
	1	+5VDC	External +5VDC max 600mA (automatic switch off at overload, short–circuit protected) provided strap is fitted on P3:2-3 which spoils the galvanic isolation
	2	+TXD	+Transmit data
	3	+RXD	+Receive data
	4	–	
	5	GNDE	Ground
	6	–	
	7	–RXD	–Receive data
	8	–TXD	–Transmit data
	9	–	

RS-485 Isolated, Full Duplex (reconfiguration required)

Note: *The RS–485 circuit is available as a spare part.*

Strap fitted on P3: 1-2, if external +5VDC is required

Straps fitted on P2 & P5

RS–485 circuit fitted on SKT2&SKT5

Connector Configuration (RS-485 on "uart2")

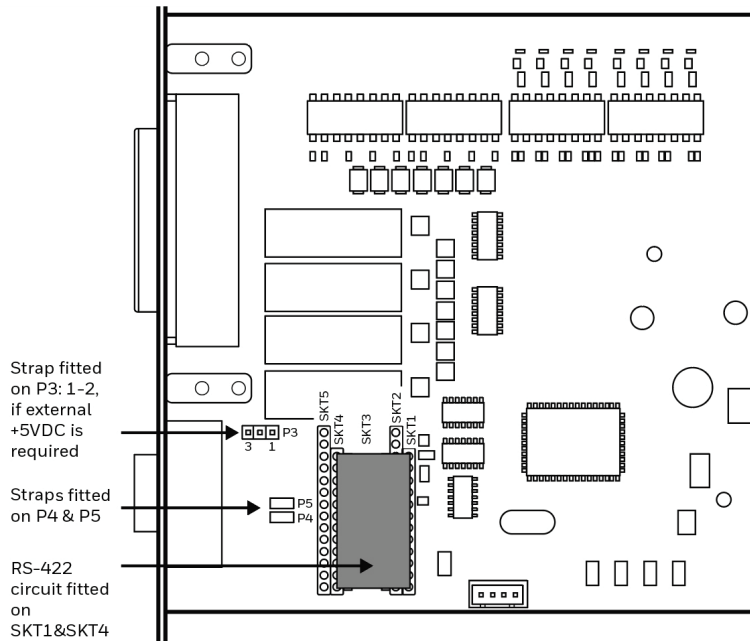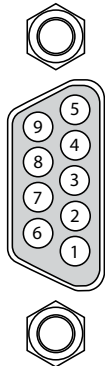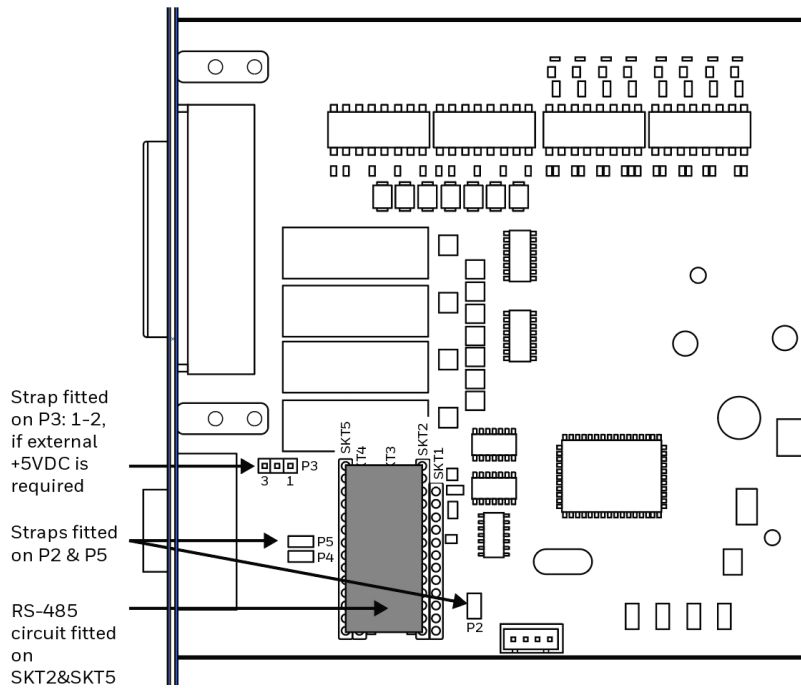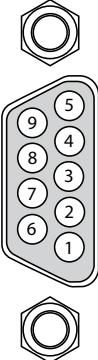| RS-485 Socket	Pin of DB9	Signal Name	Description
	1	+5VDC	External +5VDC max 600mA (automatic switch off at overload, short-circuit protected) provided strap is fitted on P3:2-3 which spoils the galvanic isolation
	2	+DATA	
	3	-	
	4	-	
	5	GNDE	Ground
	6	-	
	7	-	
	8	-DATA	
	9	-	

Note: *The increased use of LAN networks has made the RS-485 interface somewhat obsolete, because RS-485 requires a special communication protocol and a dedicated wiring system limited to 1,200 m(4000ft). We only recommend RS-485 for existing application and advise the customer to consider a LAN network solution for new applications.*

Industrial Interface

The Industrial Interface, provides 8 digital IN ports with optocouplers, 8 digital OUT ports with optocouplers, and 4 OUT ports with relays.

The industrial interface has no straps or circuits to be fitted or removed. All signals are available on a DB-44pin socket and the various ports are controlled by the Honeywell Fingerprint instructions PORTIN and PORTOUT ON/OFF.

For more information, see the Honeywell Fingerprint Command Reference Manual at www.sps.honeywell.com.

Digital Opto In

The status of the digital IN ports can be read using the PORTIN functions. If a current is led through the optocoupler of the port, PORTIN returns the value -1 (true) or value 0 (false).

Signal	Description	Min	Typical	Max
Vin (High)	Input voltage high	10V	24V	40V
Vin (Low)	Input voltage low	-1V	0V	1V

Connector Configuration

Pin	Signal Name	Description	Fingerprint Ref.No
10	IN1A	Anode Opto In Channel 1+	101 (301)
40	IN1K	Cathode Opto In Channel 1–	
26	IN2A	Anode Opto In Channel 2+	102 (302)
11	IN2K	Cathode Opto In Channel 2–	
41	IN3A	Anode Opto In Channel 3+	103 (303)
27	IN3K	Cathode Opto In Channel 3–	
12	IN4A	Anode Opto In Channel 4+	104 (304)
42	IN4K	Cathode Opto In Channel 4–	
28	IN5A	Anode Opto In Channel 5+	105 (305)
13	IN5K	Cathode Opto In Channel 5–	
43	IN6A	Anode Opto In Channel 6+	106 (306)
29	IN6K	Cathode Opto In Channel 6–	
14	IN7A	Anode Opto In Channel 7+	107 (307)
44	IN7K	Cathode Opto In Channel 7–	
30	IN8A	Anode Opto In Channel 8+	108 (308)
15	IN8K	Cathode Opto In Channel 8–	

Simplified schematics of a digital IN port:

Digital Opto Out

The current to each optocoupler of the digital OUT ports can be turned on and off using PORTOUT ON/OFF statements. The status of 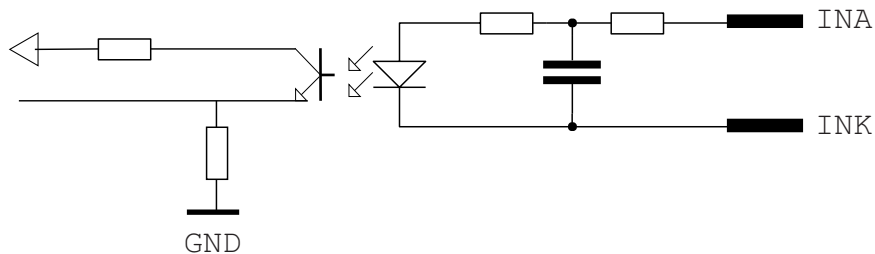the ports can be read using PORTIN functions. If a current is led through the optocoupler of the port. PORTIN returns the value –1 (true), else it returns the value 0 (false).

Signal	Description	Max
Vceo	Collector – emitter Breakdown Voltage	35V
Veco	Emitter – collector breakdown voltage	6V
Ic	Collector current (non-saturation)	30mA

Connector Configuration:

Pin of DSUB 44	Signal Name	Description	Fingerprint Ref. No.
20	OUT_1C	Collector Opto Out Channel 1	221
5	OUT_1E	Emitter Opto Out Channel 1	
35	OUT_2C	Collector Opto Out Channel 2	222
21	OUT_2E	Emitter Opto Out Channel 2	
6	OUT_3C	Collector Opto Out Channel 3	223
36	OUT_3E	Emitter Opto Out Channel 3	
22	OUT_4C	Collector Opto Out Channel 4	224
7	OUT_4E	Emitter Opto Out Channel 4	
37	OUT_5C	Collector Opto Out Channel 5	225
23	OUT_5E	Emitter Opto Out Channel 5	
8	OUT_6C	Collector Opto Out Channel 6	226
38	OUT_6E	Emitter Opto Out Channel 6	
24	OUT_7C	Collector Opto Out Channel 7	227
9	OUT_7E	Emitter Opto Out Channel 7	
39	OUT_8C	Collector Opto Out Channel 8	228
25	OUT_8E	Emitter Opto Out Channel 8	

Simplified schematics of a digital OUT port:
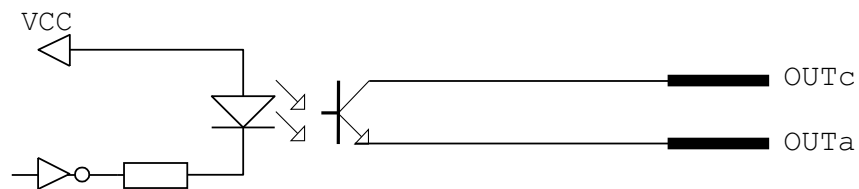
Relay Out

The relays of the OUT ports can be individually activated using PORTOUT ON/OFF statements. The status of the ports can be read by means of PORTIN functions. If a relay is activated, PORTIN returns the value -1 (true), else it returns the value 0 (false).

Max AC Load Breaking Capacity

Signal	Description	Max
I	Current	1A
Psw AC	Switching power	100VA AC
Usw AC	Switching voltage	100V AC

Max AC Load Breaking Capacity

a: resistive load
b: inductive load L/R=20 ms
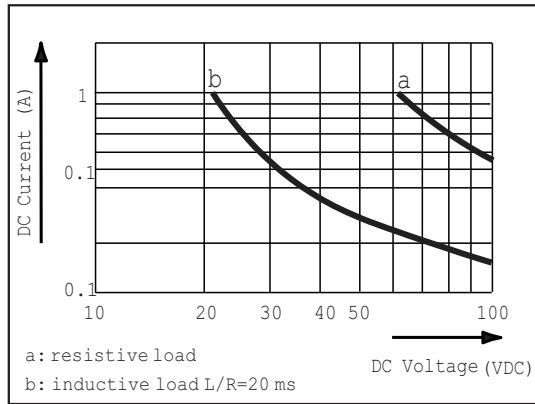
Connector Configuration:

Pin of DSUB 44	Signal Name	Description	Fingerprint Ref. No.
16	REL1NC	Relay 1 Normally Closed	201
1	REL1NO	Relay 1 Normally Open	
31	REL1COM	Relay 1 Common	
17	REL2NC	Relay 2 Normally Closed	202
2	REL2NO	Relay 2 Normally Open	
32	REL2COM	Relay 2 Common	
18	REL3NC	Relay 3 Normally Closed	203
3	REL13NO	Relay 3 Normally Open	
33	REL3COM	Relay 3 Common	
19	REL4NC	Relay 4 Normally Closed	204
4	REL4NO	Relay 4 Normally Open	
34	REL4COM	Relay 4 Common	

Simplified schematics of a relay OUT port:
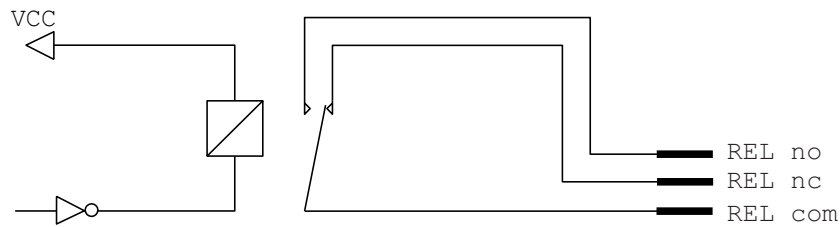
Double Serial Industrial Interface Board

This section describes how to physically install a Double Serial Interface Kit for PX45 and PX65 printers and how to configure the two serial communication ports.

Out of the box

- One Double Serial interface board
- One hexagonal spacer
- Two flat cables

The tools needed for installation are #T10 and #T20 Torx screwdrivers.

Installation

⚠️ **Warning: The installation described in this section must only be performed by an authorized service technician.
Honeywell assumes no responsibility for personal injury or damage to the equipment if the installation is performed by an unauthorized person.**

⚠️ **Caution: Follow standard ESD guidelines to avoid damaging the equipment.**

⚠️ **Caution: Before you begin, turn off the printer and disconnect the power cord and communication cables.**

Follow the procedure to physically install the Double Serial Interface Kit in the printer.

Note: *This procedure applies to both the PX45 and PX65. For simplicity, the PX45 is depicted in the illustrations.*

1. Turn off the printer and disconnect the power cord.
2. Disconnect all communication cables.
3. Remove the electronics cover (See).
4. Remove the #T20 Torx screw fitted on the hexagonal spacer at the center of the CPU board. Keep the screw.
5. If necessary, reconfigure the interface board by fitting or removing circuits and straps according to the descriptions of each board.
6. Attach the flat cable included in the kit to connector J17 (marked "EXP") on the CPU board.

7. Insert the interface board with the component side facing right, as seen from behind.

8. Installation of one board: Attach the interface board in the innermost slot in the printer's rear plate using the two screws left over when you removed the original cover plate. Using the #T20 Torx screw you previously removed, attach the interface board to the hexagonal spacer at the center of the CPU board.

9. Installations of two board: first install the inner board, then the outer one. Put the hexagonal spacer included in the kit between the inner and the outer interface board, and finally secure the outer board with the screw.

10. The kit contains two flat cables, one with two connectors for use with a single interface board and one with three connectors for use with double interface boards. Connect the appropriate flat cable to connector P1 on the interface board.

11. The flat cable should run as illustrated.

CPU Board

Spacer (existing)

Cable

Inner Interface Board

Screw (existing)

CPU Board

Spacer (existing)

Cable

Inner Interface Board

Screw (from kit)

Outer Interface Board

Screw (existing)

12. Put back the cover over the electronics compartment.

13. Connect the communication cables to the connectors on the printer's rear plate.

14. Connect the power cord and switch on the power.

15. In case the interface provides additional serial communication ports, enter the Setup Mode to set the proper communication parameters for these ports.

Allowed Interface Combinations

Left–hand slot	Ports	Right–hand slot	Ports
Double Serial	uart2: + uart3:	–	–
Double Serial	uart2: + uart3:	Double Serial	uart4: + uart5:
Double Serial	uart2: + uart3:	Serial/Industrial	uart4:
Double Serial	uart2: + uart3:	IEEE1284	centronics:
Serial/Industrial	uart2:	–	–
Serial/Industrial	uart2:	Serial/Industrial	uart3:
Serial/Industrial	uart2:	Double Serial	uart3: + uart4:
Serial/Industrial	uart2:	IEEE1284	centronics:
IEEE1284	centronics:	–	–
IEEE1284	centronics:	Double Serial	uart2: + uart3:
IEEE1284	centronics:	Serial/Industrial	uart2:

Remarks

- The left–hand slot is the slot closest to the center section.
- Always start by fitting an interface board in the left–hand slot.
- RS–485 is only supported by "uart2:"

Serial Interface

This section describes how to modify the interface board for RS–232 (standard), RS–422 isolated/full duplex, or RS–485 isolated/half duplex on the "uart2:" port and explains the configuration of the interface connector.

The connectors are marked UART A and UART B on the interface board.
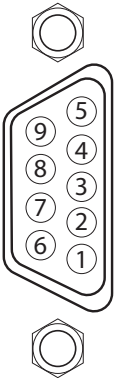
> ⚠ **Caution:** **When fitting driver circuit and straps before installing the interface board, make sure that the circuit is not fitted upside down (see front end markings in the illustration). Also make sure that the "legs" of the circuit fit into the slots in the socket and are not bent. Take ample precautions to protect the board and circuits from electrostatic discharges.**

Install jumpers and ICs on the board to configure it for the type of serial communication you want to use.
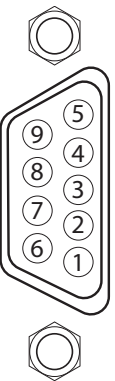
To configure UART A as:	Install these jumpers and ICs:
RS-232	1 Install a jumper on P4 so that the A is in the middle of the jumper. 2 Install IC, 360-028-001 (MAX238) on SKT3 with pin 1 located where the arrow points to SKT3 toward the bottom of the board.
RS-422	1 Install jumpers on P5 and P6. 2 Install IC, 360-027-001 (MAX1490), across sockets SKT1 and SKT4 with pin 1 located where the arrow is pointing to SKT1 towards the bottom of the board.
RS-485	1 Install a jumper on P3. 2 (Optionally) Install a jumper on P6 if this printer is going to be connected to the end of the cable. Install IC, 360-026-001 (MAX1480), across SKT2 and SKT5 3 with pin 1 located where the arrow is pointing to SKT2 towards the bottom of the board.

To configure UART B as:	Install these jumpers and ICs:
RS-232	1 Install a jumper on P8 so that the A is in the middle of the jumper. 2 Install IC, 360-028-001 (MAX238) on SKT6 with pin 1 located where the arrow points to SKT6 toward the bottom of the board.
Non-isolated RS-422	1 Install jumpers on P8 so that the B is in the middle of the jumper. 2 Install IC, 360-025-001 (DS8921), on SKT7 with pin 1 located where the arrow is pointing to SKT7on the board.
20 mA Current Loop	1 Install a jumper on P7. 2 For an **active** transmitter: Install one jumper at P11A, P11C, P12A, and P12C. 3 For a **passive** transmitter: Install one jumper at P11B and P12B. Install one IC, 360-013-001 (6N139), on sockets SKT8 and SKT9 with pin 1 located where the arrow is pointing to SKT8 and SKT9 on the board.

RS-232 Connector Configuration

RS–232 Socket as seen from the outside	DB–9 Socket	Signal	Meaning
	1		External +5VDC max 500mA (automatic switch off at overload, short–circuit protected)
	2	TXD	Transmit data
	3	RXD	Receive data
	4	DSR	Data set ready
	5	GND	Ground
	6	DTR	Data terminal ready
	7	CTS	Clear to send
	8	RTS	Request to send
	9	–	Not used

RS-422 Connector Configuration

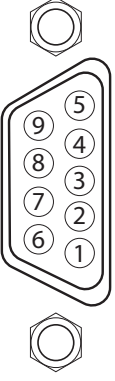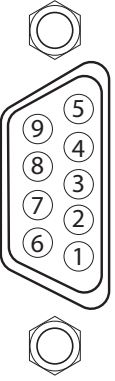| RS–422 Socket as seen from the outside	DB–9 Socket	Signal	Meaning
	1		External +5VDC max 500mA (automatic switch off at overload, short–circuit protected) provided strap is fitted on P4:A or P8:A which spoils the galvanical isolation
	2	+TXD	+Transmit data
	3	+RXD	+Receive data
	4	–	
	5	GNDE	Ground
	6	–	
	7	–RXD	–Receive data
	8	–TXD	–Transmit data
	9	–	

RS-485 Connector Configuration

RS-485 Socket as seen from the outside	DB-9 Socket	Signal	Meaning
	1		External +5VDC max 500mA (automatic switch off at overload, short-circuit protected) provided strap is fitted on P4:A or P8:A which spoils the galvanical isolation
	2	+DATA	
	3	-	
	4	-	
	5	GNDE	Ground
	6	-	
	7	-	
	8	-DATA	
	9	-	

Note: *The increased use of LAN networks has made the RS-485 interface somewhat obsolete, because RS-485 requires a special communication protocol and a dedicated wiring system limited to 1,200m (4000ft). We only recommend RS-485 for existing applications and advice the customer to consider a LAN network solution for new applications.*

20 mA Current Loop Connector Configuration

20mA Current Loop as seen from the outside	DB-9 Socket	Signal	Meaning
	1		External +5VDC max 500mA (automatic switch off at overload, short-circuit protected) provided strap is fitted on P8:A which spoils the galvanical isolation
	2	+TXD	+Transmit data
	3	+RXD	+Receive data
	4	-	
	5	GNDE	Ground
	6	-	
	7	-RXD	-Receive data
	8	-TXD	-Transmit data
	9	-	

Note: *Maximum recommended baud rate is 9600 bps.*

IEEE 1284 Parallel Board

This section describe how to install the IEEE1284 Parallel port interface board and the connector configuration.

Out of the Box

- One IEEE 1284 Parallel Port Board
- One hexagonal spacer
- One flat cable

The only tools required for installation are the #T10 and #T20 Torx screwdrivers.

Installation

⚠️ **Warning:** **The installation described in this section must be only performed by an authorized service technician. Honeywell assumes no responsibility for personal injury or damage to the equipment if the installation is performed by an unauthorized person.**

⚠️ **Caution:** **Follow standard ESD guidelines to avoid damaging the equipment.**

⚠️ **Caution:** **Before you begin, turn off the printer and disconnect the power cord and communication cables.**

Follow the procedure to physically install the IEEE1284 Parallel Port Board in the PX45/PX65 printer.

1. Turn off the printer and disconnect the power cord.
2. Remove the media cover (See).
3. Remove the electronics cover (See).
4. Remove the #T20 Torx screw fitted on the hexagonal spacer at the center of the CPU board. Keep the screw.
5. If necessary, reconfigure the interface board by fitting or removing circuits and straps according to the descriptions of each board.
6. Attach the flat cable included in the kit to connector J17 (marked "EXP") on the CPU board.

7. Insert the interface board with the component side facing right, as seen from behind.

8. Installation of one board: Attach the interface board in the innermost slot in the printer's rear plate using the two screws left over when you removed the original cover plate. Using the #T20 Torx screw you previously removed, attach the interface board to the hexagonal spacer at the center of the CPU board.

9. Installations of two board: first install the inner board, then the outer one. Put the hexagonal spacer included in the kit between the inner and the outer interface board, and finally secure the outer board with the screw.

10. The kit contains two flat cables, one with two connectors for use with a single interface board and one with three connectors for use with double interface boards. Connect the appropriate flat cable to connector P1 on the interface board.T

11. The flat cable should run as illustrated.

CPU Board

Spacer (existing)

Cable

Inner Interface Board

Screw (existing)

CPU Board

Spacer (existing)

Cable

Inner Interface Board

Screw (from kit)

Outer Interface Board

Screw (existing)

12. Put back the cover over the electronics compartment.

13. Connect the communication cables to the connectors on the printer's rear plate.

14. Connect the power cord and switch on the power.

Remarks

• The left-hand slot is the slot closest to the center section.

• Always start by fitting an interface board in the left-hand slot.

• Only one IEEE 1284 parallel interface board can be fitted.

Parallel Interface

This section describes the signals on the connector of the IEEE 1284 Parallel inter-face board.

Connector Configuration

The IEEE 1284 board has a standard 36pin IEEE 1284 B socket with the following configuration.

Pin	Signal	Remark
1	DSTROBE	
2	DATA0	+Transmit data
3	DATA1	+Receive data
4	DATA2	
5	DATA3	Ground
6	DATA4	
7	DATA5	-Receive data
8	DATA6	-Transmit data
9	DATA7	
10	ACK	
11	BUSY	
12	PE	
13	SELECT	
14	AF	
15	N/C	Not Connected
16	GND	
17	SCREEN	
18	-	External +5VDC max 500mA (automatic switch-off at overload, short-circuit protected)
19-30	GND	
31	INIT	
32	ERROR	
33-35	N/C	Not Connected
36	SELECTIN	

RFID Interface Board

The RFID kit provides RFID functionality for PX45 and PX65 printers. With this kit installed, the PX45 or PX65 printer can read and write to RFID tags. This section describe how to install the RFID interface board and the connector configuration.

These instructions describe how to install the following RFID kits:

- PX45 915 MHz RFID Kit (P/N 50147009-002)
- PX45 869 MHz RFID Kit (P/N 50147010-002)
- PX65 915 MHz RFID Kit (P/N 50147011-002)
- PX65 869 MHz RFID Kit (P/N 50147012-002)

For more information about printing on RFID Media, see the PX45 and PCX65 User Guide.

Out of the Box

- One of the following RFID interface boards:
  - RFID interface board with IM11 869 MHz radio module
  - RFID interface board with IM11 915 MHz radio module
- One of the following lower media guides:
  - PX45 lower media guide with RFID antenna
  - PX65 lower media guide with RFID antenna
- Dual slot I/O cable
- M3x5 screw (2)
- M4x5 screw
- Spacer screw

You will also need a #T10 and #T20 screwdriver and a small wrench.

Installation

To install the RFID module, you need to open the printer and physically install the module in the printer.

Warning: **The installation described in this section must be only performed by an authorized service technician. Honeywell assumes no responsibility for personal injury or damage to the equipment if the installation is performed by an unauthorized person.**

Caution: Follow standard ESD guidelines to avoid damaging the equipment.

Caution: Before you begin, turn off the printer and disconnect the power cord and communication cables.

1. Turn off the printer and disconnect the power cord.
2. Open the front door and right side door.
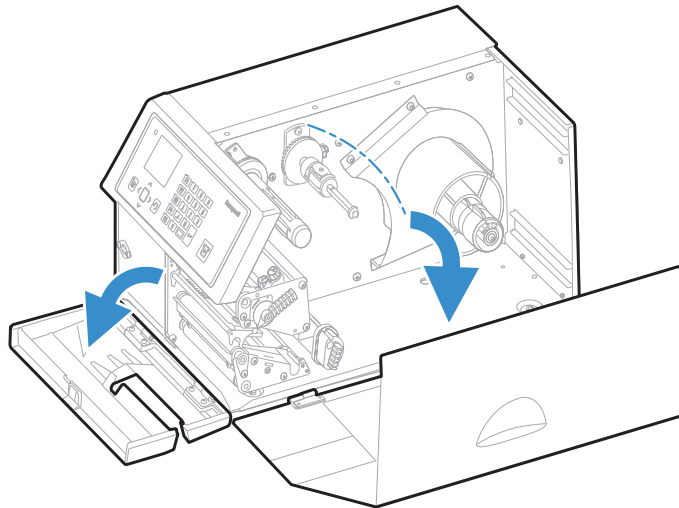
3. Remove the electronics cover (See page 3).
4. Release the lower media guide latch.

Lower media guide latch
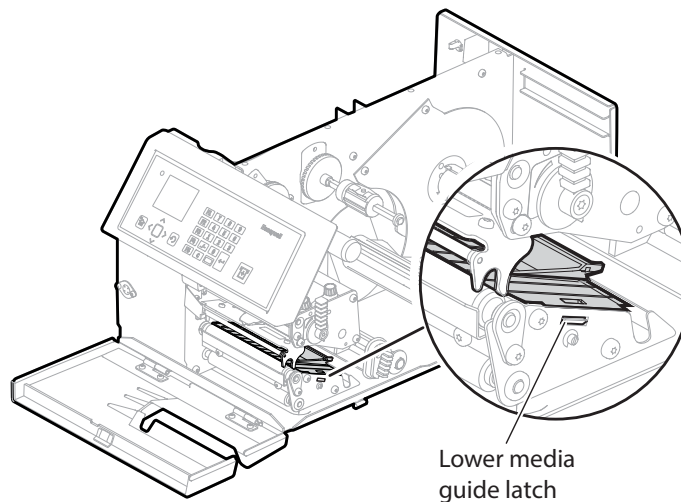
5. Carefully remove the lower media guide and upper media guide assembly.

Upper and lower media
guide assembly
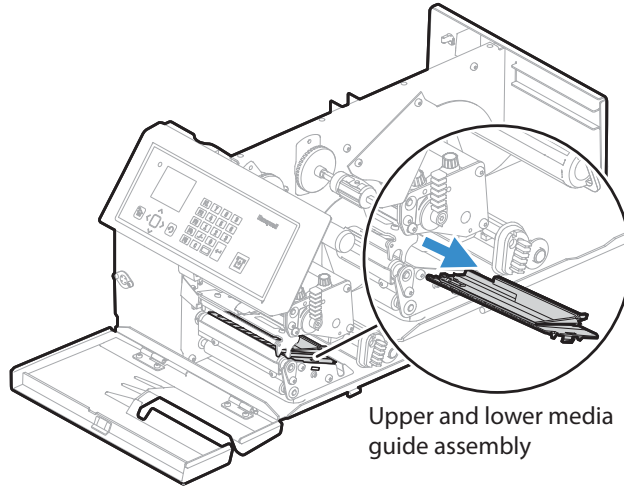
6. Remove the upper media guide from the lower media guide.

7. Route the antenna cable from the RFID lower media guide through the opening in the print engine base. Make sure to route the cable in front of the label stop sensor (LSS) guide bar.
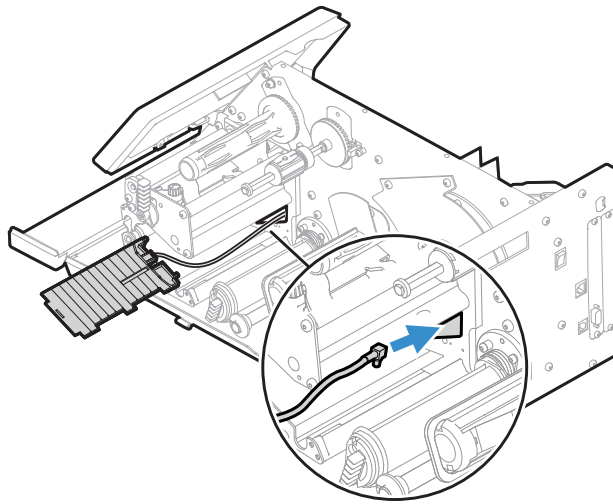
8. Slide the RFID lower media guide into the printer. Insert the pins on the guide into the holes on the print engine base.

RFID lower media guide
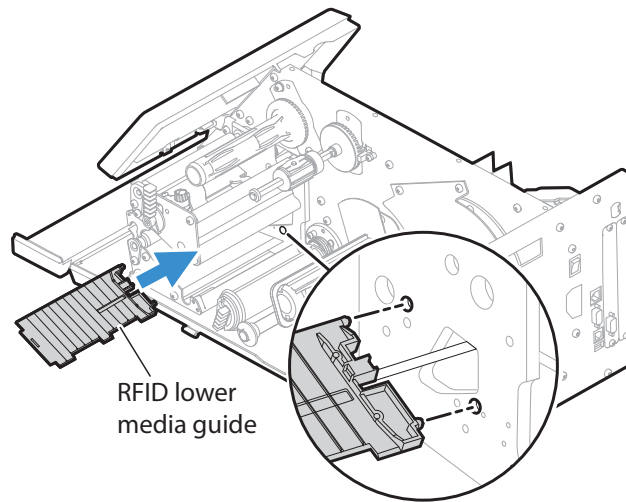
9. Snap the RFID lower media guide into place.

10. Insert the upper media guide.

11. On the back of the printer, remove the two screws that secure the cover plate to slot 1 or slot 2, and remove the cover plate.
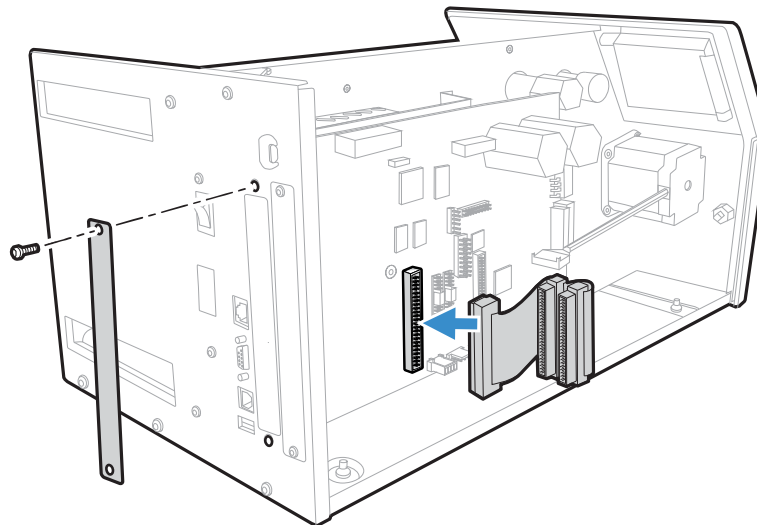
Note: *You need to use the first available slot on the printer starting from the left (slot 1)*

12. Connect the dual slot I/O cable to the main board.

13. Connect the dual slot I/O cable to the RFID interface board. Use the connector 1 for slot 1 and connector 2 for slot 2.
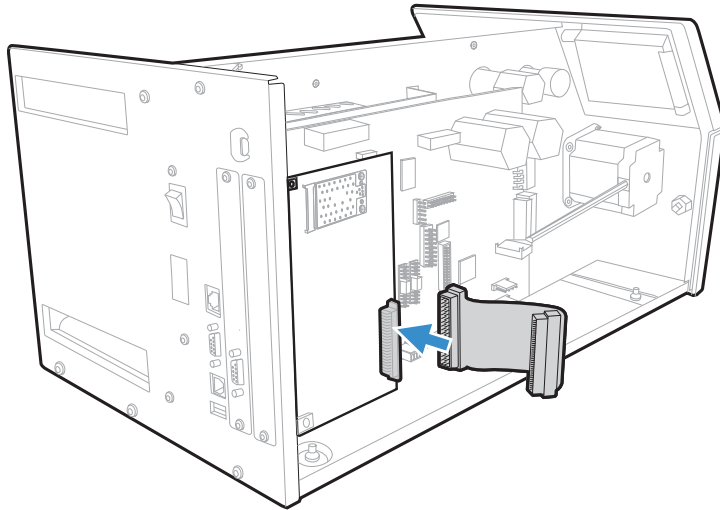
14. Slide the RFID interface board into the printer.

15. Secure the RFID interface board with the two screws you removed in Step 9 or with the two included M3x5 screws.

16. Secure the RFID interface board to the circuit board with the M4x5 screw and spacer screw. For slot 1, use the spacer screw on the main board. For slot 2, use the spacer screw in the kit.

17. Connect the antenna cable to the RFID interface board.
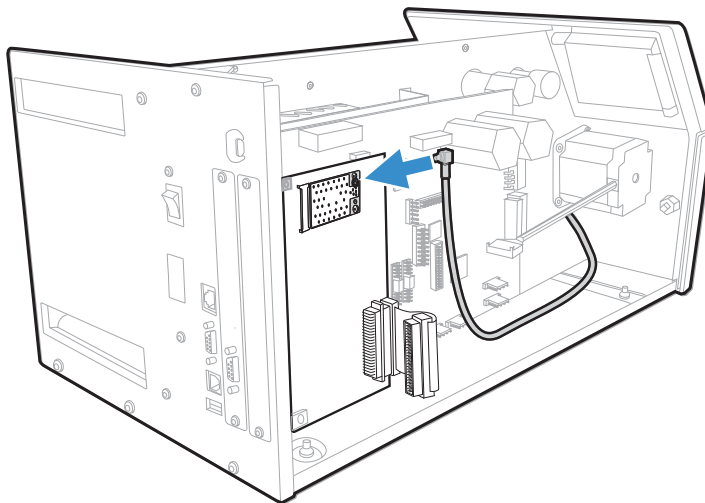
18. Attach the left side door to the printer.

19. Close the front and right side doors.

Applicator Interface Board

This section describes how to physically install and configure the Applicator interface board in the PX45 and PX65 printers.

Out of the Box

The Applicator Interface Board installed kit includes:

- One Applicator Interface Board
- Two flat cables
- One spacer screw
- One 3x8mm Torx screw
- Two 4x8mm Torx screws

The only tools required for installation are the #T10 and #T20 Torx screwdrivers.

Installation

Warning: **The installation described in this section must only be performed by an authorized service technician.**
Honeywell assumes no responsibility for personal injury or damage to the equipment if the installation is performed by an unauthorized person.

Caution: **Follow standard ESD guidelines to avoid damaging the equipment.**

Caution: **Before you begin, turn off the printer and disconnect the power cord and communication cables.**

Follow the procedure to physically install the Applicator Interface Board in the PM45 printer.

Note: *This procedure applies to both the PX45 and PX65 printers. For simplicity, the PX45 is depicted in the illustrations.*

1. Turn off the printer and disconnect the power cord.
2. Remove the media cover. (See).
3. Remove the electronics cover. (See).
4. Remove the one or two cover plates depending on how many interface boards you are going to install. Each plate is held by two #T10 Torx screws.

5. Remove the #T20 Torx screw fitted on the hexagonal spacer at the center of the CPU board. Keep the screw.

6. If necessary, reconfigure the interface board by fitting or removing circuits and straps according to the descriptions of each board.

7. Attach the flat cable included in the kit to connector on the CPU board.

8. Insert the interface board with the component side facing right, as seen from behind.
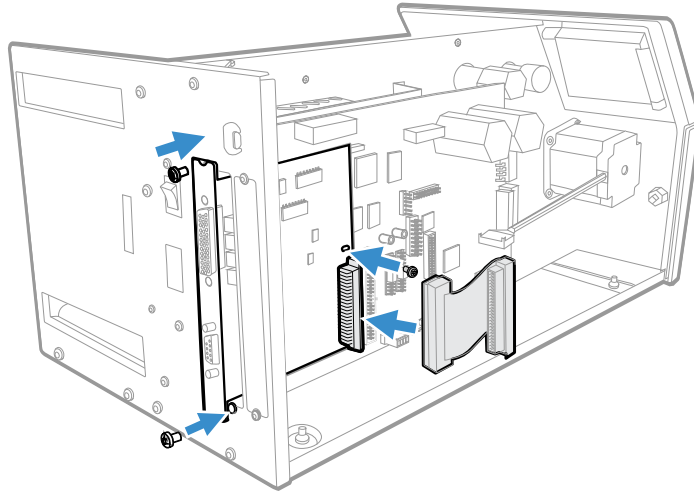
9. Installation of one board: Attach the interface board in the innermost slot in the printer's rear plate using the two screws left over when you removed the original cover plate. Using the #T20 Torx screw you previously removed, attach the interface board to the hexagonal spacer at the center of the CPU board.

10. The kit contains two flat cables, one with two connectors for use with a single interface board and one with three connectors for use with double interface boards. Connect the appropriate flat cable to connector P1 on the interface board.

11. The flat cable should run as illustrated.

CPU Board

Spacer (existing)

Cable

Inner Interface Board

Screw (existing)
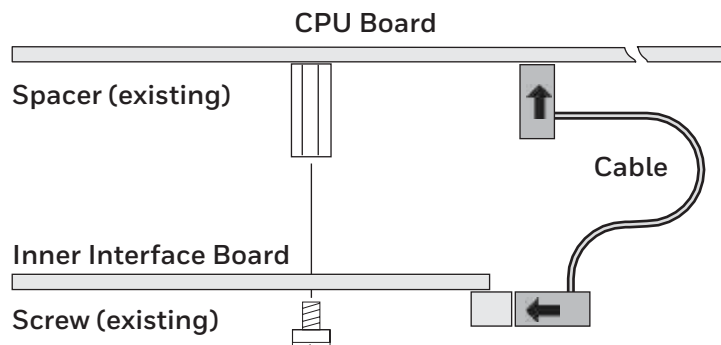
12. Put the cover back on the electronics compartment.

13. Connect the communication cables to the connectors on the printer's rear plate.

14. Connect the power cord and switch on the power.

15. In case the interface provides additional serial communication ports, enter the Setup Mode to set the proper communication parameters for these ports.

Remarks

- The left-hand slot is the slot closest to the center section.

- Always start by fitting an interface board in the left-hand slot.

Interfacing

The applicator interface supports applicator signals with 8 digital IN ports with optocouplers, 8 digital Out ports with optocouplers, and 4 OUT ports with relays.

The board has no straps or circuits to be fitted or removed. All signals are available on a DB-44 pins socket.

The Applicator Interface board also provides an option of three port styles (Z-style, S-style, I-style) and one External Error PortThis option board contains 4 connectors for a Z-Style Port, an S-Style Port, an External Power Port, and an External Error Port.

Applicator Interface IN Signals

The Applicator Interface supports 8 digital input ports with optocouplers. All in signals are asserted by setting the pin LOW and de-asserted by setting the pin HIGH.

IN Signals Specification

Signal	Description	Min.	Typical	Max.
Vin [High]	Input Voltage High	10V	24V	40V
Vin [Low]	Input Voltage Low	-1V	0V	1V

Simplified Schematic of a digital IN port

INA

INK

GND

Connector Configuration

Pin	Signal Name	Description
10	StartPrint_A	Start print Anode Opto In Channel
40	StartPrint_K	Start print Cathode Opto In Channel
26	Feed_A	Feed Anode Opto In Channel
11	Feed_K	Feed Cathode Opto In Channel
41	Pause_A	Pause Anode Opto In Channel
27	Pause_K	Pause Cathode Opto In Channel
12	Reprint_A	Reprint Anode Opto In Channel
42	Reprint_K	Reprint Cathode Opto In Channel
28	AppErr1_A	Applicator Error 1 Anode Opto In Channel
13	APPErr1_K	Applicator Error 1 Cathode Opto In Channel
43	AppErr2_A	Applicator Error 2 Anode Opto In Channel
29	APPErr2_K	Applicator Error 2 Cathode Opto In Channel
14	AppErr3_A	Start print Anode Opto In Channel
44	APPErr3_K	Start print Cathode Opto In Channel
30	RTWINEXT_K	External input signal for Ready-to-work indicator Anode Opto In Channel
15	RTWINEXT_A	External input signal for Ready-to-work indicator Cathode Opto In Channel

Applicator Interface OUT Signals

The Applicator Interface supports 8 digital output port with optocoupler. There are two methods to connect the output ports on the 44 pins D-Sub connector of the Applicator Interface card, Active High or Active Low.

The recommended/default connection is Active Low, in accordance with this user guide's logic (Assert = LOW, De-assert = HIGH).

Active Low (Recommended)

Output level is V+ when de-asserted, Output level is V- when asserted.

Active High

Output level is V+ when asserted, Output level is V- when de-asserted.
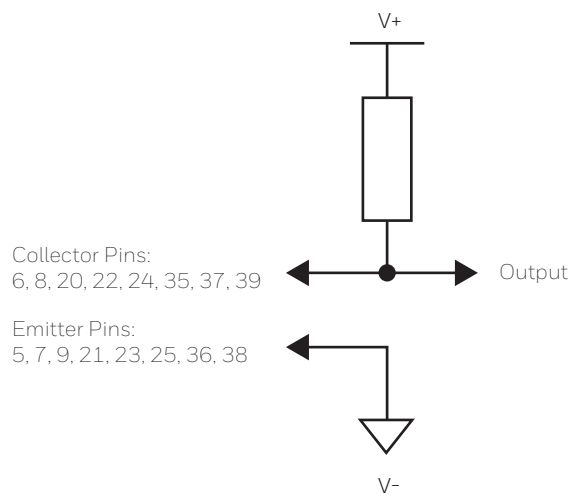
OUT Signals Specification

Signal	Description	Max.
Vceo	Collector-Emitter breakdown voltage	35V
Veco	Emitter-Collector breakdown voltage	6V
Ic	Collector Current	15mA

Simplified schematic of a digital IN port
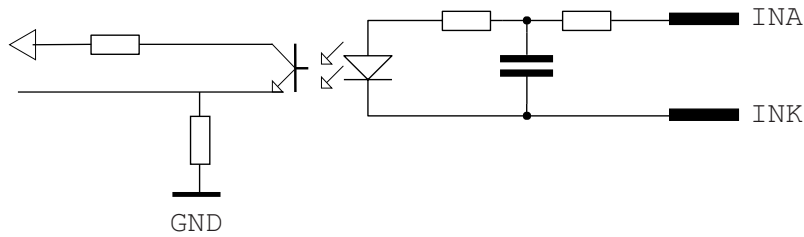
OUT Signals Connector Configuration

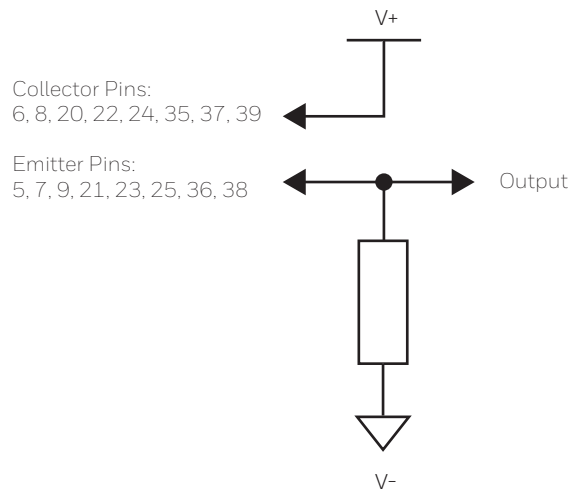| Pin	Signal Name	Description
10	StartPrint_A	Start print Anode Opto In Channel
40	StartPrint_K	Start print Cathode Opto In Channel
26	Feed_A	Feed Anode Opto In Channel
11	Feed_K	Feed Cathode Opto In Channel
41	Pause_A	Pause Anode Opto In Channel
27	Pause_K	Pause Cathode Opto In Channel
12	Reprint_A	Reprint Anode Opto In Channel
42	Reprint_K	Reprint Cathode Opto In Channel
28	AppErr1_A	Applicator Error 1 Anode Opto In Channel
13	APPErr1_K	Applicator Error 1 Cathode Opto In Channel
43	AppErr2_A	Applicator Error 2 Anode Opto In Channel
29	APPErr2_K	Applicator Error 2 Cathode Opto In Channel
14	AppErr3_A	Start print Anode Opto In Channel
44	APPErr3_K	Start print Cathode Opto In Channel
30	RTWINEXT_K	External input signal for Ready-to-work indicator Anode Opto In Channel
15	RTWINEXT_A	External input signal for Ready-to-work indicator Cathode Opto In Channel

Relay Out

The applicator card support 4 relay output ports. The relay of the OUT ports are configured using the DC 5V and DC 24V settings. Relay 1 and Relay 3 are configured by DC 5V setting and Relay 2 and Relay 4 are configured by DC 24V setting. DC 5V and DC 24V settings are legacy applicator card settings, no power is supplied by PX45/65 applicator card. Any signals that are within the max load breaking capacity of the relay can be connected to the relays.

Max AC Load Breaking Capacity

Signal	Description	Max.
I	Current	1A
Psw AC	Switching Power	1000VAC
Vsw AC	Switching Voltage	100VAC

Max DC Load Breaking Capacity

a: resistive load
b: inductive load L/R=20 ms
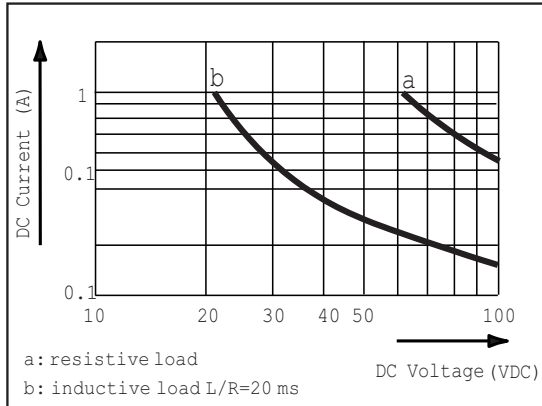
Connector Configuration

Pin	Signal Name	Description
16	REL1nc	Relay 1 Normally Closed
1	REL1no	Relay 1 Normally Open
31	REL1com	Relay 1 Common
17	REL2nc	Relay 2 Normally Closed
2	REL2no	Relay 2 Normally Open
32	REL2com	Relay 2 Common
18	REL3nc	Relay 3 Normally Closed
3	REL3no	Relay 3 Normally Open
33	REL3com	Relay 3 Common
19	REL4nc	Relay 4 Normally Closed
4	REL4no	Relay 4Normally Open
34	REL4com	Relay 4 Common

Simplified schematics of a relay OUT port

```
VCC
```

REL no
REL nc
REL com
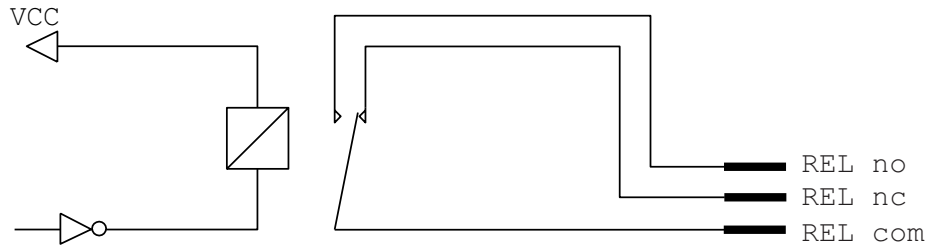
Configuring Applicator Port Settings

The applicator interface supports three different applicator modes:

- Z-Style Port
- S-Style Port
- I-Style Port. This mode combines Z-Style or S-Style settings with the ability to trigger external I/O systems via the External Error port.

You can configure applicator port settings from the web browser interface or in Setup Mode.

Web Browser Interface

1. From the menu, click **System Settings > Manage I/O**. The configuration screen appears.
2. Chose **Enable** from the drop down list for the Applicator.
3. From the menu, click **Configure** > **Printing** > **Applicator**.
4. Choose desired settings from the drop down lists.

Setting	Description
Style	I-Style, Z-Style, S-Style
Startprint	Level or Pulse
Endprint	Mode 0, Mode 1/Type3, Mode2/Type4, Mode3/Type 1, Mode 4/Type 2
Ribbon/Media Low	Enables/disables the printer low ribbon alert message. Enables/disables the printer low media alert message.
Reprint	Enables/disables reprinting the last label sent to the printer (by using the Reprint signal)
Error on Pause	Enable this setting to set the "Service Required" signal when the printer is paused. This setting supported by Z-Style only.
Error Port	Enables/disables the printer external error port.

Setting	Description
RTW	Configures the Ready-to-Work output signal (RTWOUTEXT). Choose from: • Mode 1 – Signal is asserted low when no events are active in the System Health Monitor (SHM). • Mode 2 – Signal is asserted low when the printer motor is idle. • Mode 3 – Signal is asserted low when the printer motor is idle and no events are active in the SHM.
DC 5V	Configures the printer to use either its internal power supply or an external supply (connected to the External Power port) to provide +5VDC to the Z-Style and S-Style ports.
DC 24V	Configures the printer to use either its internal power supply or an external supply (connected to the External Power port) to provide +24VDC to the Z-Style and S-Style ports.

5. Click **Save**. The settings are saved.

Setup Mode

Use the printer touch screen to view and change settings.

1. Press **Menu > Settings > System Settings > Manage I/O**.
2. Choose **Enable** from the drop-down list for the applicator.
3. From the menu, select **Menu > Settings > Printing > Applicator**.

About Applicator Input Signals

This section describes the INPUT signals.

Note: *All IN signals are asserted low and de-asserted high.*

Signal	Description
Startprint	Starts a print job. Choose either Level or Pulse. • Level: The printer starts printing labels when the startprint signal is asserted and continues printing until the signal is de-asserted. • Pulse: The printer prints one label when the startprint signal is asserted. The startprint signal must be de-asserted and then asserted to print the next label.
Feed	Feeds a single label. Not supported by S-Style.
Pause	Toggles between Pause mode and printing. Not supported by S-Style.
Reprint	Reprints the last valid label.
Apperr1	Applicator error 1.
Apperr2	Applicator error 2.
Apperr3	Applicator error 3.
RTWINEXT	External input signal, which you can use to monitor the operational status of the entire system.

About Applicator OUT Signals

This section describes the Applicator OUT signals.

Note: *Unless described otherwise, all OUT signals are asserted low and de-asserted high.*

Signal	Description
Data Ready	Asserted when the printer is ready to receive a startprint signal and execute the current print job. De-asserted when the print cycle ends. Not supported by S-Style.
Endprint	Asserted during or after a print cycle. The endprint signal also behaves differently depending on the applicator port endprint mode. When the startprint signal is received, the endprint signal may or may not be asserted. There are five options to choose from: • Mode 0: Endprint signal is never asserted. • Mode 1 (Z-Style)/Type 3 (S-Style): Asserted low during print/feed cycle. • Mode 2 (Z-Style)/Type 4 (S-Style): Asserted high during print/feed cycle. • Mode 3 (Z-Style)/Type 1 (S-Style): Asserted low for at least 20 ms after print/feed cycle end. • Mode 4 (Z-Style)/Type 2 (S-Style): Asserted high for at least 20 ms after print/feed cycle end.
Media out	Asserted when the printer is out of media. Activates an SHM PaperOut event in the System Health Monitor (SHM). De-asserted when the same event is deactivated.
Ribbon/Media low	Asserted when the ribbon/media roll diameter drops below a predefined level. De-asserted while the roll diameter remains above the predefined level. Media low is supported only by I-Style.
Ribbon out	Asserted when the printer is out of ribbon. Activates an SHM RibbonOut event in the System Health Monitor (SHM). De-asserted when the same event is deactivated.
RTWOUTEXT	External output signal. Behavior depends on the current setup. Signal may be asserted when there are no active events in the System Health Monitor (SHM), when the printer motor is idle, or both. This signal is inactive when the Error Port option is disabled.
SERVICEREQ (Service Required)	Asserted low when an event in the System Health Monitor (SHM) is activated. De-asserted when no events are active in the SHM. A "service required" event is also activated when the Error Port is enabled and any applicator errors is detected. This signal is also asserted when the Error on Pause option is enabled.

Programming Applications for the printer

The printer includes Honeywell Fingerprint, a programming language that resides on the printer. Fingerprint is an easy-to-use programming tool for label formatting and printer customization.

Fingerprint also includes a slave protocol, Honeywell Direct Protocol, which allows layouts and variable data to be downloaded from a host and combined into labels, tickets, and tags with a minimum of programming. Honeywell Direct Protocol also includes a versatile error handler and a flexible counter function.

Fingerprint Commands for the printer

The ON PORTIN, PORTIN, PORTOUT, and ON PORTOUT Fingerprint commands support applicator functionality for the printer. These commands are functional when the printer applicator port status is enabled.

This section includes basic information for each of these commands. For more information, see the Fingerprint Command reference manual.

ON PORTIN

This command allows a Fingerprint application to detect in signals. If a particular in signal is asserted, the application moves to the subroutine responsible for carrying out tasks related to that in signal. One command is available for detection of each of the 8 in signals.

Note: *This command is not supported by Honeywell Direct Protocol.*

Example:

• ON PORTIN.STARTPRINT GOSUB nnn

PORTIN

This command is a version of the PORTIN(PORT) command and checks the current state of a specified signal. This command returns –1 if the signal is asserted, or 0 if the signal is de-asserted.

Note: *This command is supported by Fingerprint and Direct Protocol.*

Example:

• PORTIN.STARTPRINT

or

• PORTIN.RIBBONLOW

PORTOUT

Supports manually modifying the dataready signal. PORTOUT is not allowed when the applicator port style is set to S-Style.

Note: *This command is not supported by Direct Protocol.*

Example:

• PORTOUT.DATAREADY ON

- PORTOUT DATAREADY OFF

where *on* asserts the dataready signal low and *off* de-asserts the dataready signal high.

ON PORTOUT

This command allows a Fingerprint application to detect when out signals have been reset to default values. The command moves to a specified subroutine whenever the applicator port status is enabled, and whenever the applicator port style is changed.

Example:

- ON PORTOUT.RESET GOSUB nnn

Using External Applicator Signals

The printer responds to external applicator port signals differently, depending on whether your application is using Fingerprint or Honeywell Direct Protocol.

Fingerprint and Applicator Signals

When you use Fingerprint, all in signals and the Data-ready out signal are handled by Fingerprint. Other out signals are handled by firmware.

Feed

When the Feed in signal is received, the application moves to a specified subroutine that feeds labels until the Feed in signal is de-asserted.

Example:

- 10 ON PORTIN.FEED GOSUB 200

  ...
  200 FORMFEED
  210 RETURN

Pause

When the Pause in signal is received, the application moves to a specified subroutine that finishes the current print job and then places the printer in pause mode.

Example:

- 10 ON PORTIN.PAUSE GOSUB 90

  ...
  90 pause printer

Startprint

When the Startprint signal is received, the application moves to a specified subroutine that starts the print job. The Startprint signal must be preceded by the dataready signal as seen in this example.

Example:

- 10 PORTOUT.DATAREADY on
  20 ON PORTIN.STARTPRINT GOSUB 60

  ...
  60 my print routine
  70 PRINTFEED
  80 RETURN

Reprint

When the Reprint signal is received, the application moves to a specified subroutine that reprints the last valid label.

Example:

- ...
  100 ON PORTIN.REPRINT GOSUB 150

  ...
  150 PRINTFEED -1,1
  160 RETURN

Printfeed

The dataready signal must be set manually by the Fingerprint application before a printfeed is issued when using with an applicator.

Handling External Applicator Errors

When an error signal (apperr1, apperr2, or apperr3) is received, the application moves to a specified subroutine that takes action based on error severity.

Example:

...
60 ON PORTIN.APPERR1 GOSUB 100

...
100 perform error handling
110 RETURN

Handling Internal System Errors

For internal system errors, the system error signal status can be read at any time within the application so appropriate measures can be taken. When any of these errors occur, the appropriate out signal (including the error) is asserted:

- Printhead lifted

- Ribbon out

- Media out

- General print engine fault

- Exceed maximum barcodes

Example:

- 10 IF PORTIN.RIBBONLOW GOTO 200

  ...
  200 perform error handling
  210 RETURN

Resetting Out Signals

Out signals are reset to their default values when certain options are changed by using the SETUP menu. When the reset is detected, the application moves to a specified subroutine and performs the tasks necessary to reinitialize the print engine.

Example:

- 10 ON PORTOUT.RESET GOSUB 150

  ...
  150 perform initialization
  160 RETURN

Direct Protocol and Applicator Signals

In Direct Protocol, all in and out signals are handled by the Direct Protocol firmware.

Feed

There are two ways to trigger blank label feeding:

- by manually pressing Feed on the printer front panel. The printer feeds a single blank label.

- by using the Feed in signal. When this signal is detected, the printer feeds blank labels as long as internal applicator flag indicates that the Feed signal is asserted.

Pause

The applicator can toggle the current pause state by using the pause in signal to simulate pressing Pause on the printer front panel. When the printer is in pause state, you can press Setup on the printer front panel and place the print engine in Setup Mode for manual configuration.

Startprint

When the printfeed command is executed, the print process sets the dataready signal and then waits for the startprint signal to be detected before proceeding with the print job.

The print process will not set another dataready signal until the current print job de-asserts the previous dataready signal. This prevents the printer from printing a new label before the previous label is completed.

Reprint

This signal works much the same way as startprint. The reprint signal is detected under two conditions:

- when the printer is idle.
- when the printer is waiting for a startprint signal during the execution of a printfeed command.

The printer prints only one label at a time.

Handling External Applicator Errors

The external applicator error in signals (APPERR1, APPERR2, APPERR3, RTWINEXT) should be asserted when external applicator errors occur. When one of these signals is detected, an associated event is activated in the System Health Monitor (SHM). When the issue causing the error has been resolved and the error signals are de-asserted, the events are deactivated in the SHM.

Handling Internal System Errors

When a system error occurs that activates an event in the SHM, the "service required" signal is asserted. The external RTW out signal can be de-asserted, depending on the current print engine RTW setting.

When any of these errors occur, the appropriate out signal (including the error) is asserted:

- Printhead lifted
- Ribbon out
- Media out
- General print engine fault
- Exceed maximum barcodes

Error Messages

ERRNOAPP

Message: Operation not allowed. Applicator Port disabled.

Cause:	Application sent an applicator port command to the printer and the applicator port is disabled.
Error Number:	88

ERRAPP

Message:	Operation not allowed. Applicator Port enabled.
Cause:	Application sent the Fingerprint command PORTOUT(PORT) ON|OFF on a port used by the applicator port when the applicator port is enabled.
Error Number:	89

ERRINPUTON

Message:	Operation not allowed in Direct Protocol.
Cause:	Running the PORTOUT.DATAREADY ON|OFF or PORTIN.<SIGNAL> GOSUB XXX commands when the printer is using Direct Protocol.
Error Number:	90

EAPPERR1

Message:	Applicator Error 1.
Cause:	AppErr1 in signal detected.
Result:	Activates event in System Health Monitor (SHM).
Error Number:	1340

EAPPERR2

Message:	Applicator Error 2.
Cause:	AppErr2 in signal detected.
Result:	Activates event in System Health Monitor (SHM).
Error Number:	1341

EAPPERR3

Message:	Applicator Error 3.
Cause:	AppErr3 in signal detected.
Result:	Activates event in System Health Monitor (SHM).
Error Number:	1342

ERTWINEXT

Message:	RTW Extenal Error.
Cause:	RTWExternal in signal detected.
Result:	Activates event in System Health Monitor (SHM).
Error Number:	1343

ENODATAREADY

Message:	Dataready not enabled.
Cause:	Application sent a PRINTFEED in Fingerprint when the applicator port is enabled, the style is set to I-Style or Z-Style, and the dataready signal is not enabled.
Result:	Terminates the printfeed command without printing a label.
Error Number:	1344

Display Messages

These messages appear in the printer display under certain conditions when a PRINTFEED command is run.

Message:	APPLICATOR PORT: Wait for signal.
Cause:	Running a PRINTFEED command blocks execution until a startprint signal is received. The message appears when execution has been blocked for a few seconds.

Message:	APPLICATOR PORT: Wait for reprint.
Cause:	Running a PRINTFEED -1,1 command blocks execution until a reprint signal is received. The message appears when execution has been blocked for a few seconds.

Port Pintout Mapping for Applicator Interface

The Physical connectors of the Z, S style connectors and the External Error port connector pins are mapped to the 44-pin connector of the applicator interface option board.

The mapping of the applicator interface ports are detailed below. DB-44 Connector Pin.

Applicator Interface (44 pin)		External Error Port (8 pin)			
Pin	Type	Pin	Signal	Type	Description
28	Input	1	AppErr_1	Input	Applicator error#1
13					
43	Input	2	AppErr_2	Input	Applicator error#2
29					
14	Input	3	AppErr_3	Input	Applicator error#3
44					

Applicator Interface (44 pin)		External Error Port (8 pin)				
30	Input	4	AppErr_4	Input	Honeywell Read-to Work Indicator input for external errors (RtW_In_Ext)	
15						
39	Output	6	RTW_Out	Output	Honeywell Ready–to-Work indicator output for total system indicator	
25						

Applicator Interface (44 pin)		Equivalent I-Style, Z-Style Signal Pin			Equivalent S-Stype Signal Pin		
Pin	Type	Pin	Signal	Type	Pin	Signal	Type
10	Input	3	Startprint	Input	5	Startprint	Input
40							
26	Input	4	Feed	Input			
11							
41	Input	5	Pause	Input			
27							
12	Output	6	Reprint	Input	7	Reprint	Input
42							
20	Output	9	Ribbon Low	Output	10	Ribbon Low	Output
5							
35	Output	10	Service Required	Output	4	Error	Output
21							
6	Output	11	End Print	Output	6	End Print	Output
36							
22	Output	12	Media Out	Output	1	Media Out	Output
7							
37	Output	13	Ribbon Out	Output	3	Ribbon Out	Output
23							
8	Output	14	Data Ready	Output			
38							
24	Output	15	VOID	Output			
9							

802.11 Radio Interface Kit

The 802.11 radio interface enables 802.11 wireless functionality on the PX45 and PX65 printers. This section describes how to install the 802.11 radio interface on the PX45 and PX65 printers.

Out of the Box

- SDIO board assembly
- Antenna and Antenna cable assembly
- M3x8mm screw
- Cable tie (2)

The tools needed for installation are #T10, #T20 Torx screwdriver, and a small wrench.

Installation

⚠ **Warning: The installation described in this section must only be performed by an authorized service technician.**
Honeywell assumes no responsibility for personal injury or damage to the equipment if the installation is performed by an unauthorized person.

⚠ **Caution: Follow standard ESD guidelines to avoid damaging the equipment.**

⚠ **Caution: Before you begin, turn off the printer and disconnect the power cord and communication cables.**

Follow the procedure to physically install the 802.11 WIFI Kit in the printer.

Note: *This procedure applies to both the PX45 and PX65. For simplicity, the PX45 is depicted in the illustrations.*

1. Turn off the printer and disconnect the power cord.
2. Disconnect all communication cables.
3. Remove the electronics cover (See).

4. Insert the antenna cable into the antenna cable jack on the SDIO board assembly.
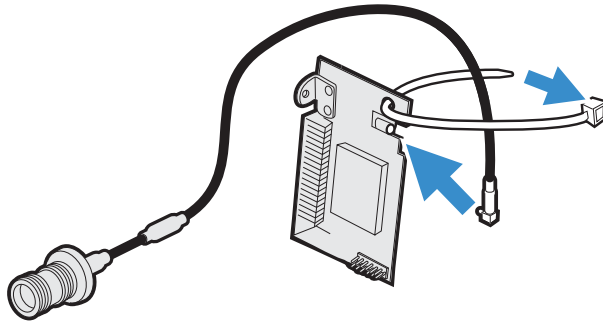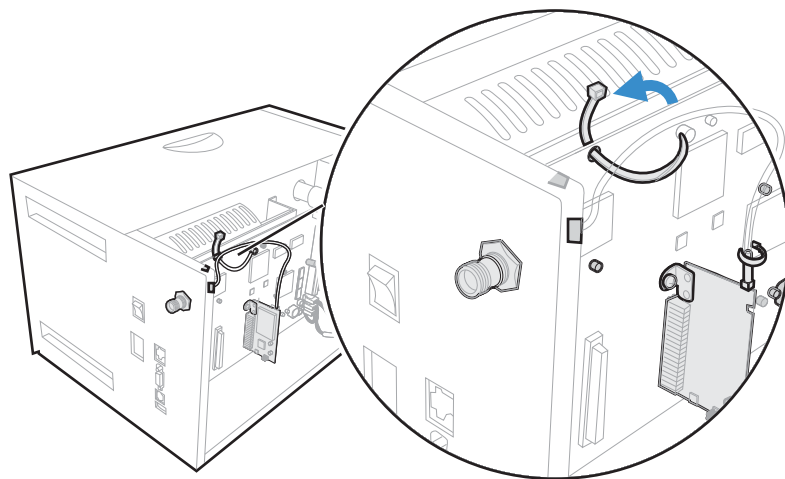

5. Secure the antenna cable to the SDIO board assembly with a cable tie. Note the location of the head of the cable tie.

6. Trim the excess cable tie.
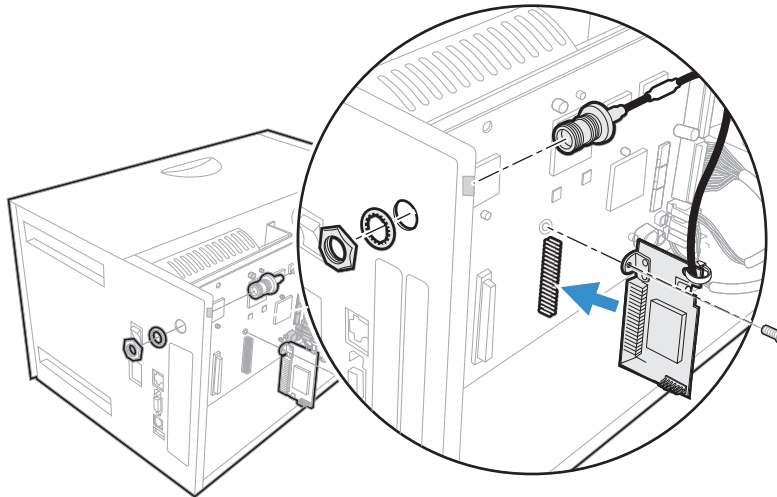
7. Insert the SDIO board assembly into the 44-pin connector.

8. Secure the SDIO board assembly with the M3x8mm screw that shipped with the kit.

9. Install the other end of the antenna cable on the back plate and tighten the nut.

10. Use the other cable tie to secure the antenna cable to the printer.

11. Trim the excess from the cable tie.

12. Close the printer.

13. Connect the antenna to the antenna connector on the back plate.

14. Affix the labels to the appropriate locations on the printer.

INSTALLING ACCESSORIES

Cutter Module

The PX45 and PX65 printers can easily be fitted with an optional cutter, provided the printer is not already fitted with a label-taken sensor. The cutters are almost identical with exception for the width.

The cutter unit is fitted by replacing the front door and the printer hinges, and is connected by a single cable to the DIN-connector on the printer's front. The cutter is available both as a factory-installed option and as a field installable upgrading kit. It can be installed by the operator. The cutter is intended to cut through a continuous non-adhesive paper strip or the backing paper between labels. The cutter is not intended to cut through any kind of adhesive or other soft material.

⚠ **Caution:** **Adhesive material can stick to the cutting parts and render the cutter inoperable and possibly damage the electric motor due to overheating**

The cutter is intended to cut through continuous non-adhesive paper strip or through the backing paper between labels. It must not be used to cut through any kind of adhsesive or other soft material, that may stick to the cutting parts and render the cutter inoperable and even damage the electric motor by overheating.

Maximum paper thickness is 175ƒÝ (. 175 grams/m2) for normal paper-based materials.

Minimum practical copy length is 38.1mm (1.5 inches). The cutter increases the printers total weight and length as follows:

Printer	Weight	Length
PX45	1.0 kg (2.2lbs)	28mm (1.1 inches)
PX65	1.65 kg (3.6lbs)	28mm (1.1 inches)

The cutter can be tilted forward in order to facilitate cleaning and paper load.

	Warning:	**The cutting edge will rotate to home position when the power is turned on and when the printer is rebooted. Always keep the cutter unit closed during operation.**

Contents

Use these instructions to install the cutter in the PM45 printer. You will find the following items in the shipping box.

- Cutter unit
- 2 hinges with torx screws

Installation

Follow the procedure to physically install the cutter.

Note: *This procedure applies to both the PX45 and PX65 Printers. For simplicity, the PX45 Printer is depicted in the illustrations.*

You will need a Torx screwdriver to install the cutter module.

1. Switch off the power and disconnect the power cord.

|	**Warning:**	**Make sure to turn off the power before beginning to install or remove the cutter unit.**

2. Open the printer's front door.
3. Hold the printer firmly and press the front door sideways to the left so as to disengage the hinges.
4. Remove the door completely.
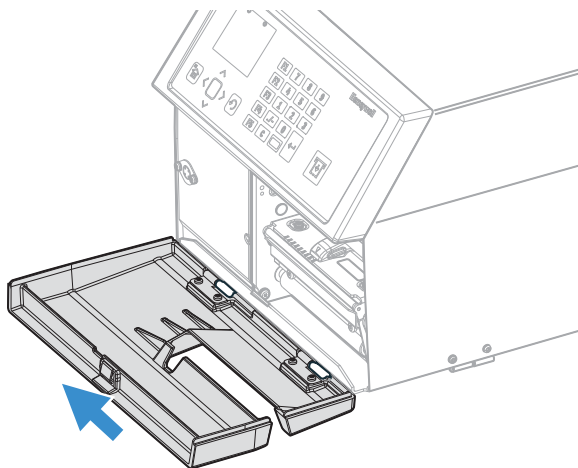
5. Remove the existing two hinges held by four #T10 Torx screw at the bottom of the printer.
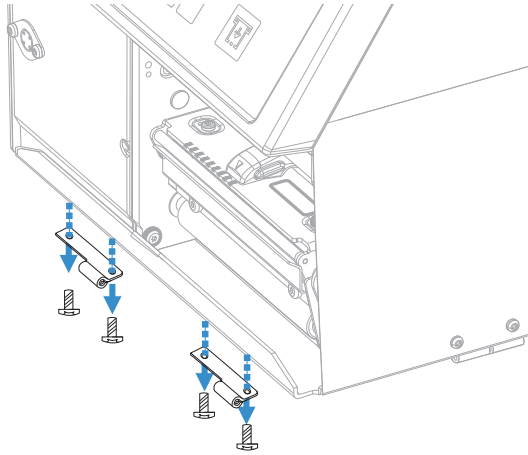
6. Replace the hinges with the new ones that came with the cutter unit using the same four #T10 Torx screw.
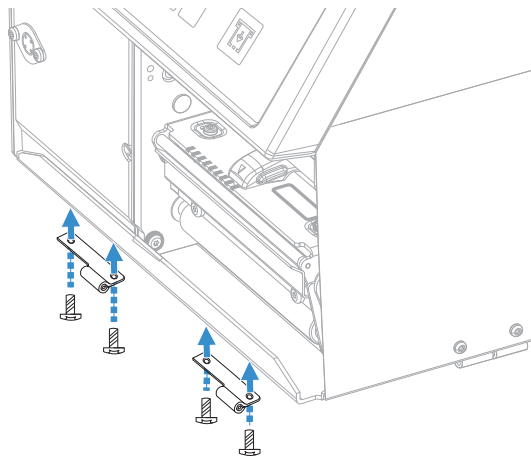
7. Fit the cutter unit to the vacant hinges. Make sure that the locking plate snaps into the groove of the right-hand hinge and that the angled plate at the bottom of the cutter is inserted under the printer's bottom plate.

8. Fit the cable from the cutter unit into the DIN connector on the printer's front and press the cutter door sideways.
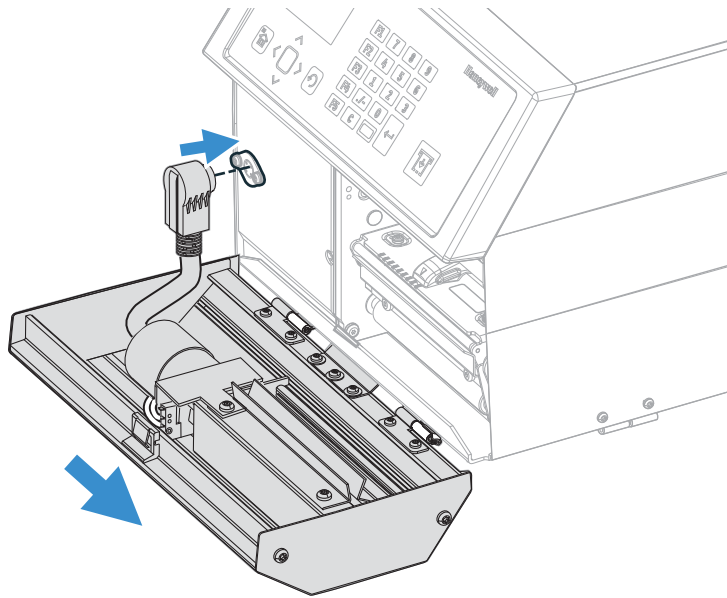

9. Tilt the cutter unit upwards until it locks into place. If the cutter does not lock properly, the hinges of the cutter unit may need to be adjusted using a #T10 Torx screwdriver.

10. Plug the printer back in and switch on the power. The cutter will perform an idle cycle in order to occupy its home position.

11. Switch off the power. Tilt down the cutter and route the paper through the cutter unit between the guide plates (also see the User's Guide). Then tilt up the cutter again and lock it in closed position.

12. Check that the printhead is lowered and switch on the power. Now the printer is ready for operation.

Cutter Module and PX45 Printer with Cutter Module Installed
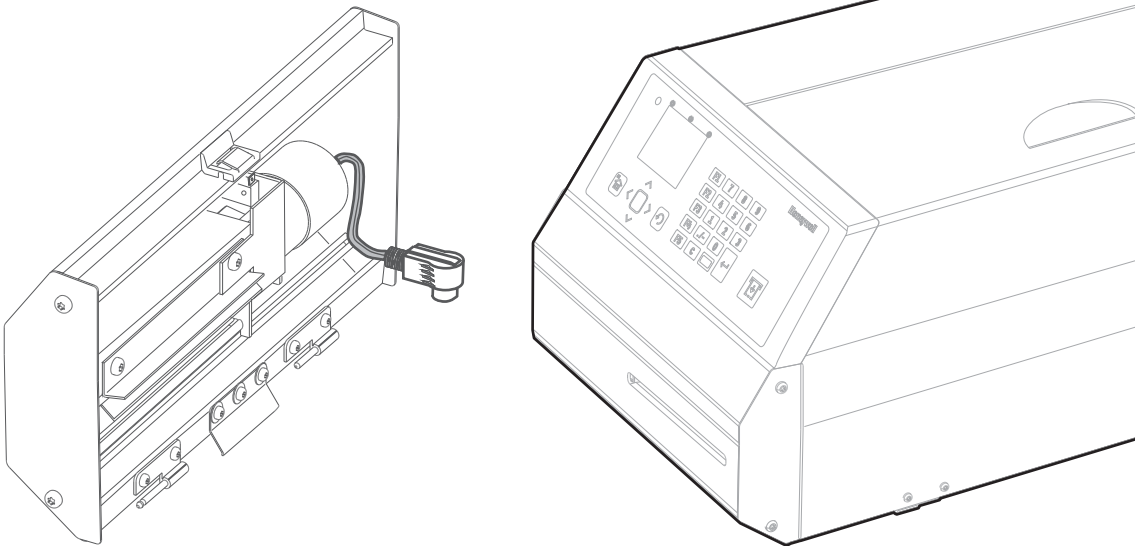
Cutter Module and PX65 Printer with Cutter Module Installed
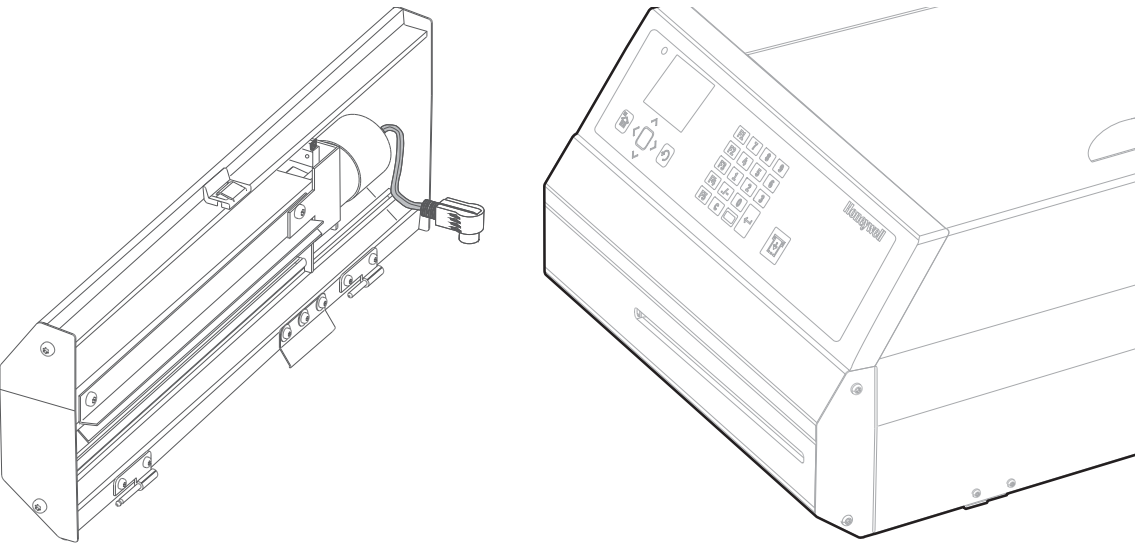
Controlling the Cutter

The cutter can be controlled using the printer command languages and the supported printer command languages are,

- Fingerprint
- Direct Protocol (DP)
- Intermec Printer Language (IPL)
- Datamax Printer Language (DPL)
- Zebra Simulator (ZSim)

To learn how the cutter is controlled using the printer languages, refer to the respective command reference manual.

Maintenance and Troubleshooting

This section describes how to maintain and troubleshoot the cutter unit.

Cleaning

⚠️ **Warning: Switch off the power or disconnect the cutter beforecleaning. Keep fingers away from cutting parts!**

⚠️ **Caution: Isopropyl alcohol is a highly flammable, moderately toxic, and mildly irritating substance.**

The cutter mechanism becomes accessible when the cover is opened. The cutter shears will need to be cleaned on a regular basis to ensure optimal cutting performance. Use isopropyl to clean the cutter. Be careful to not dissolve the cutter lubrication.

Do not force the spring-loaded anvil blade open more that 5-10mm(0.2-0.4 inches), or the spring may be damaged.

Troubleshooting

Use this table to understand and troubleshoot some common errors you may receive and how to fix them.

Error, Probable Cause, and Solution

Error Alert	Probable Cause	Solution
Error 1701 "Cutter Jammed"	A cut has been performed but the shear has stopped on its way back to home (bottom) position.	Clean the shears from adhesive residue.
Error 37 "Cutter device not found"	Cutter cable came loose from DIN connector.	Reconnect cutter cable connector to DIN connector.
Error 1059 "Cutter does not respond"	Cutter cable came loose from DIN connector.	Reconnect cutter cable connector to DIN connector.

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