



# Double Serial Interface Kit

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For PX4ie, PX6ie

## Installation Guide

# Introduction

The installation guide describes how to physically install a Double Serial Interface Kit for PX4ie and PX6ie printers and how to configure the two serial communication ports.

## Contents

- One Double Serial interface board fitted with circuits and straps for RS-232 non-isolated.
- One hexagonal spacer
- Two flat cables

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

## Installing the Double Serial Interface Kit



**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.



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



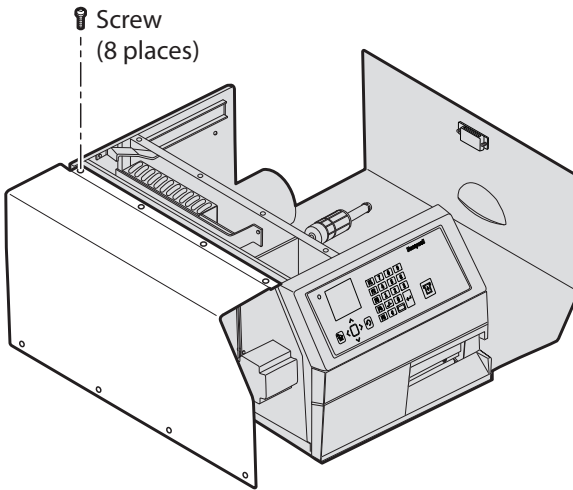
**Caution:** Before you begin, turn off the printer and disconnect the power cord and communication cables.

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

**Note:** This procedure applies to both the PX4ie and PX6ie. For simplicity, the PX4ie is depicted in the illustrations.

1. Switch off the power and disconnect the power cord.
2. Disconnect all communication cables.
3. Open the right-hand door.

4. Remove the eight #T10 Torx screws that hold the left-hand cover.

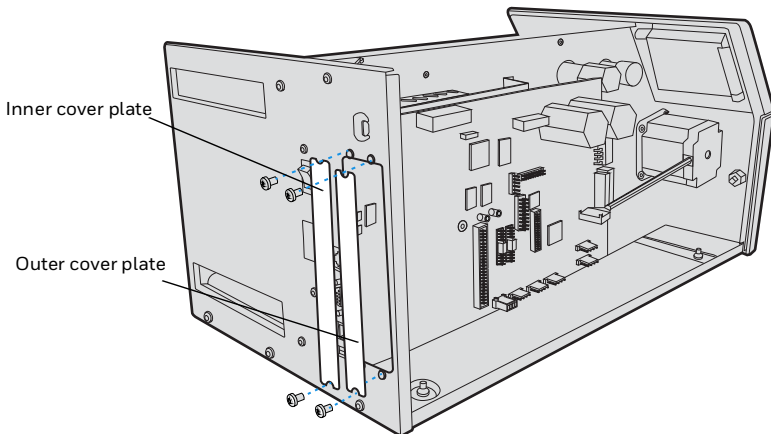


5. Put the cover aside on a soft cloth or similar to avoid scratches.



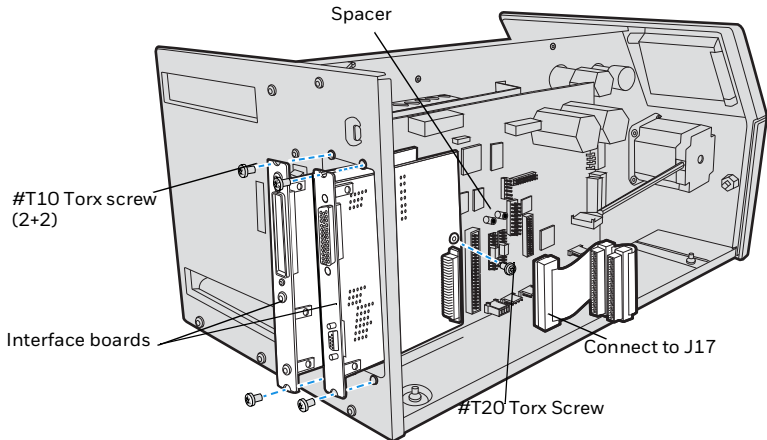
**Warning: The electronics compartment contains high voltage components and wires. Do not open the electronics compartment before the printer is safely disconnect from any AC supply.**

6. 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.



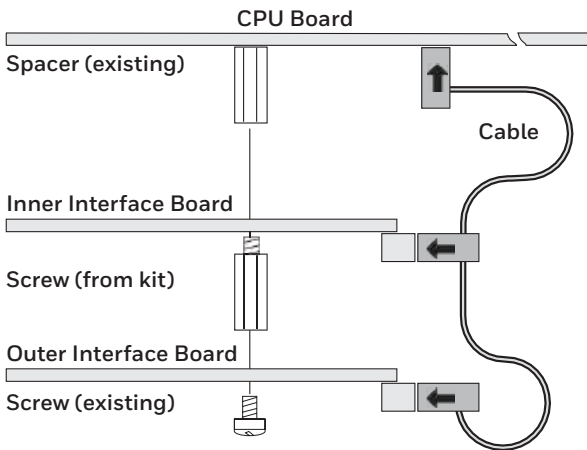
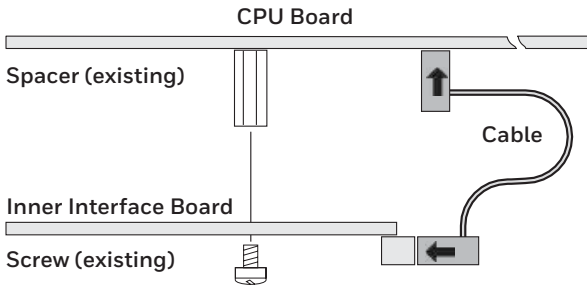
7. Always start installation at the innermost position.

8. Save the cover plate(s) for possible later use. Keep the screws.
9. Remove the #T20 Torx screw fitted on the hexagonal spacer at the center of the CPU board. Keep the screw.
10. If necessary, reconfigure the interface board by fitting or removing circuits and straps according to the descriptions of each board.
11. Attach the flat cable included in the kit to connector J17 (marked “EXP”) on the CPU board.
12. Insert the interface board with the component side facing right, as seen from behind.



13. 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.
14. 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.
15. 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.

16. The flat cable should run as illustrated.



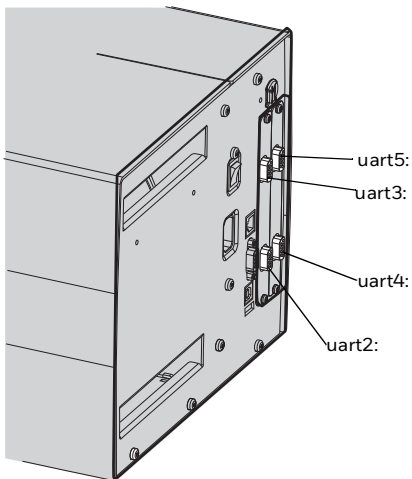
17. Put back the cover over the electronics compartment.
18. Connect the communication cables to the connectors on the printer's rear plate.
19. Connect the power cord and switch on the power.
20. In case the interface provides additional serial communication ports, enter the Setup Mode to set the proper 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 chapter describes how to modify the interface board for RS-232 non-isolated (standard), RS-422 isolated/full duplex, or RS-485 isolated/half duplex on the port and explains the configuration of the interface connector.

The connectors are marked UART A and UART B on the interface board.



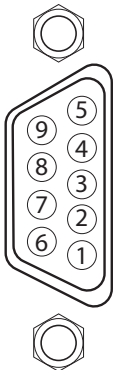
**Caution:** When fitting driver circuit and straps before installing the interface board, make sure that the circuit is not fitted upside down (see front end markings in the illustration). Also make sure that the “legs” of the circuit fit into the slots in the socket and are not bent. Take ample precautions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

Install the 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	<ol style="list-style-type: none"><li>1 Install a jumper on P4 so that the A is in the middle of the jumper.</li><li>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.</li></ol>
RS-422	<ol style="list-style-type: none"><li>1 Install jumpers on P5 and P6.</li><li>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.</li></ol>
RS-485	<ol style="list-style-type: none"><li>1 Install a jumper on P3.</li><li>2 (Optionally) Install a jumper on P6 if this printer is going to be connected to the end of the cable.</li><li>3 Install IC, 360-026-001 (MAX1480), across SKT2 and SKT5 with pin 1 located where the arrow is pointing to SKT2 towards the bottom of the board.</li></ol>

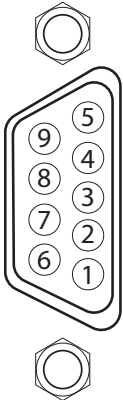
To configure UART B as:	Install these jumpers and ICs:
RS-232	<ol style="list-style-type: none"> <li>1 Install a jumper on P8 so that the A is in the middle of the jumper.</li> <li>2 Install IC, 360-028-001 (MAX238) on SKT6 with pin 1 located where the arrow points to SKT6 toward the bottom of the board.</li> </ol>
Non-isolated RS-422	<ol style="list-style-type: none"> <li>1 Install jumpers on P8 so that the B is in the middle of the jumper.</li> <li>2 Install IC, 360-025-001 (DS8921), on SKT7 with pin 1 located where the arrow is pointing to SKT7 on the board.</li> </ol>
20 mA Current Loop	<ol style="list-style-type: none"> <li>1 Install a jumper on P7.</li> <li>2 For an <b>active</b> transmitter: Install one jumper at P11A, P11C, P12A, and P12C. For a <b>passive</b> transmitter: Install one jumper at P11B and P12B.</li> <li>3 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.</li> </ol>

## RS-232 Connector Configuration

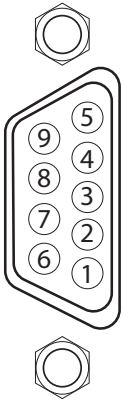
RS-232 Socket as seen from the outside	DB-9 Socket	Signal	Meaning
	1		External +5VDC max 500mA (automatic switch off at overload, short-circuit protected)
	2	TXD	Transmit data
	3	RXD	Receive data
	4	DSR	Data set ready
	5	GND	Ground
	6	DTR	Data terminal ready
	7	CTS	Clear to send
	8	RTS	Request to send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



## RS-422 Connector Configuration

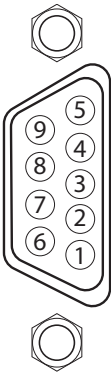
RS-422 Socket as seen from the outside	DB-9 Socket	Signal	Meaning
	1		External +5VDC max 500mA (automatic switch off at overload, short-circuit protected) provided strap is fitted on P4:A or P8:A which spoils the galvanical isolation
	2	+TXD	+Transmit data
	3	+RXD	+Receive data
	4	-	
	5	GNDE	Ground
	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 advise the customer to consider a LAN network solution for new applications.

## 20 mA Current Loop Connector Configuration

20mA Current Loop 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 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.

## Support

To search our knowledge base for a solution or to log into the Technical Support portal and report a problem, go to [www.hsmcontactsupport.com](http://www.hsmcontactsupport.com).

## Documentation

Product documentation is available at [www.honeywellaidc.com](http://www.honeywellaidc.com).

## Limited Warranty

For warranty information, go to [www.honeywellaidc.com](http://www.honeywellaidc.com) and click **Resources > Product Warranty**.

## Patents

For patent information, see [www.hsmpats.com](http://www.hsmpats.com).

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