

USER'S MANUAL



A380N

#2 RS-232 & #2 RS-485/422 Over USB INSULATED MULTIPORT

IPEX
(IP Electronix)

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1. INTRODUCTION

IP Electronix A380N is an USB Adapter Multiport that provides #4 Serial COM Ports via its USB connection and is compatible with RS-232 standard devices RXD, TXD, RTS, CTS, DTR, DSR, GND; Also, RS-485 standard devices differential (Data+ & Data-); and RS-422 standard devices differential (TX+, TX- & RX+, RX-) signals.

A380N is fully Plug & Play and enables your laptop or workstation with the ability to communicate between a USB port and up to #2 RS-232, #2 RS-485/422 serial peripherals with baud-rate from 300bps to 230400bps simultaneously.

A380N supports Point-to-Point and Point-to-Multi Point Party Line network topologies. Since RS-485 is a Half-Duplex standard, switching between Transmit and Receive is done automatically and no further signal (such as RTS) is required.

A380N supports a wide range power supply and is working with DC voltage between 8V to 48V. Protection against Surge, ESD and EMI is considered in its design and also has 3kV insulation between USB and RS-232/RS-485/422 sides. Furthermore, all the ports are insulated from each other too.

A380N is designed for industrial usage and is useful for Industrial Automation, Telecommunications, SCADA Systems and DCS Systems ...

A380N comes complete with drivers for Microsoft Windows. Drivers are also available for Linux, Mac OS and Android.

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2. SPECIFICATIONS

- **USB to Serial Hub Bidirectional Converter;**
- **Hi-Speed USB 2.0** supported (up to 480 Mbps);
- **Number of Ports:** #2 RS-232 Serial Port, #2 RS-485/RS422 Serial Port, #1 USB Port;
- Adds **#4 COM Port** to the PC;
- Fully **Plug & Play;**
- **RS-485 Signal:** Data+, Data-, GND;
- **RS-422 Signal:** TX+, TX-, RX+, RX-, GND;
- **RS-232 Signal (Full Handshake Support):** TxD, RxD, DTR, RTS, DSR, DCD, GND;
- **Maximum Communication Distance (RS-485/422):** 1200m;
- **Maximum Communication Distance (RS-232):** 15m;
- **Loading:** RS-485 and RS-422 Side up to 32 Nodes are supported;
- **Self-Powered:** works by 8V to 48V external DC power supply;
- **Serial Transmission Speed** Up to 230.4 kbps;
- **Insulation Protection:** 3kV Instantaneous, 500V DC continuous;
- **Serial Standard:** Meets or Exceeds the Requirements of RS-485/RS-422 Standards;
- **RS-232/RS-485/422 Parity:** Even, Odd, None, Mark and Space; Selectable;
- **Driver Supported:** Microsoft Windows, Linux, Mac OS and Android (32 & 64 Bits) Operating Systems;
- **Power & USB (Green)** LED Indicator;
- **Transmit (Blue)** and **Receive (Yellow)** LED Indicator;
- **ESD Protection:** RS-232 Bus-Pin ESD Protection Exceeds ± 15 kV Using Human-Body Model (HBM);
- **Dimensions:** 218mm x 122mm x 30mm (8.58in x 4.80in x 1.18 in);
- **Operating Temperature:** -10°C to +70°C (+14°F to +158°F);
- **1 Year Guarantee and 5 Years Support.**

3. PACKAGE CHECKLIST

Before installing the A380N, verify that the package contains the following items:



1) #1 A380N Multiport



2) #1 USB Cable



3) #1 Document and Driver CD-ROM



4) #2 DB9 Female Connector



5) #1 220V AC to 12V DC Adaptor



6) #2 Din Rail Brackets with the corresponding screws

NOTE: Notify your sales representative if any of the above items is missing or damaged.

4. TOP VIEW



5. BOTTOM VIEW



6. FRONT VIEW

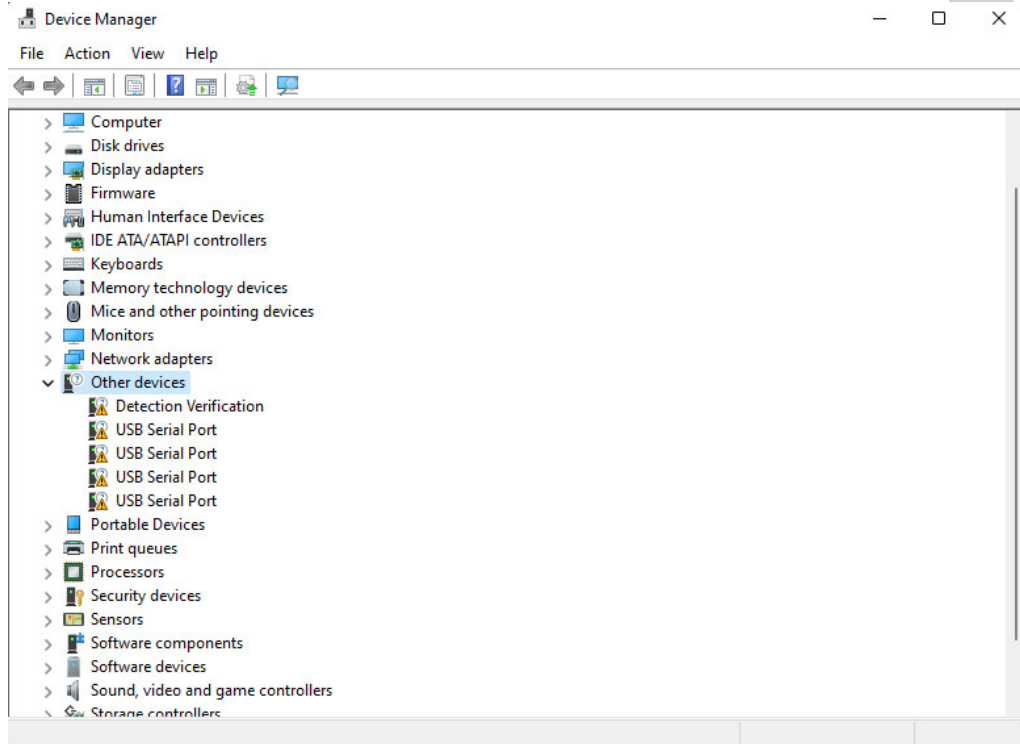


7. BACK VIEW

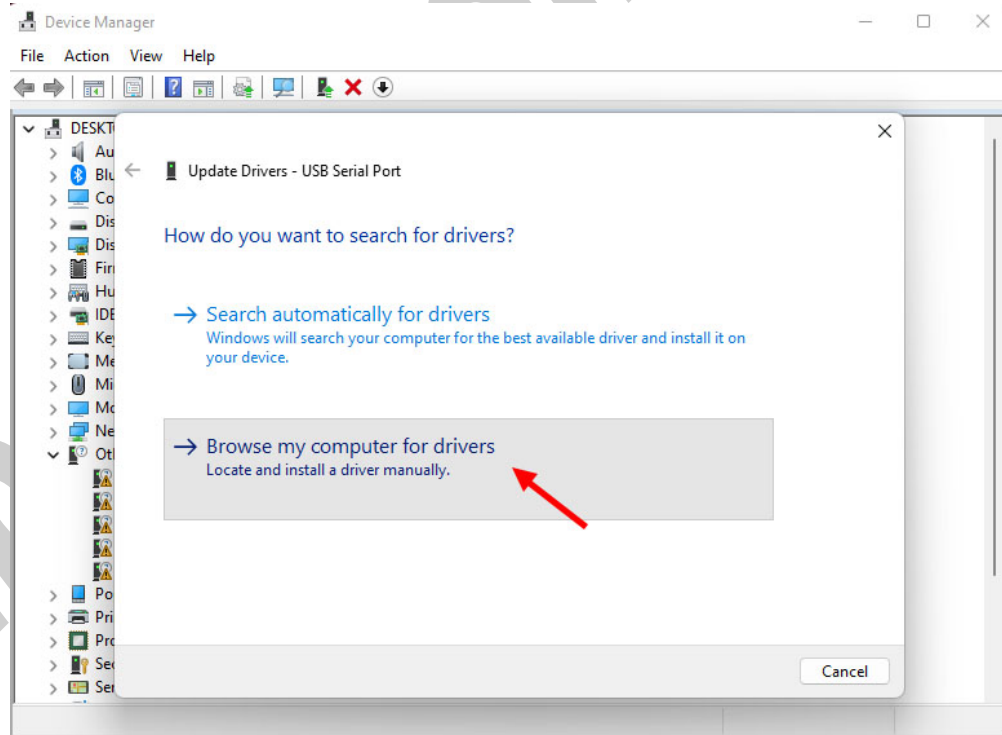
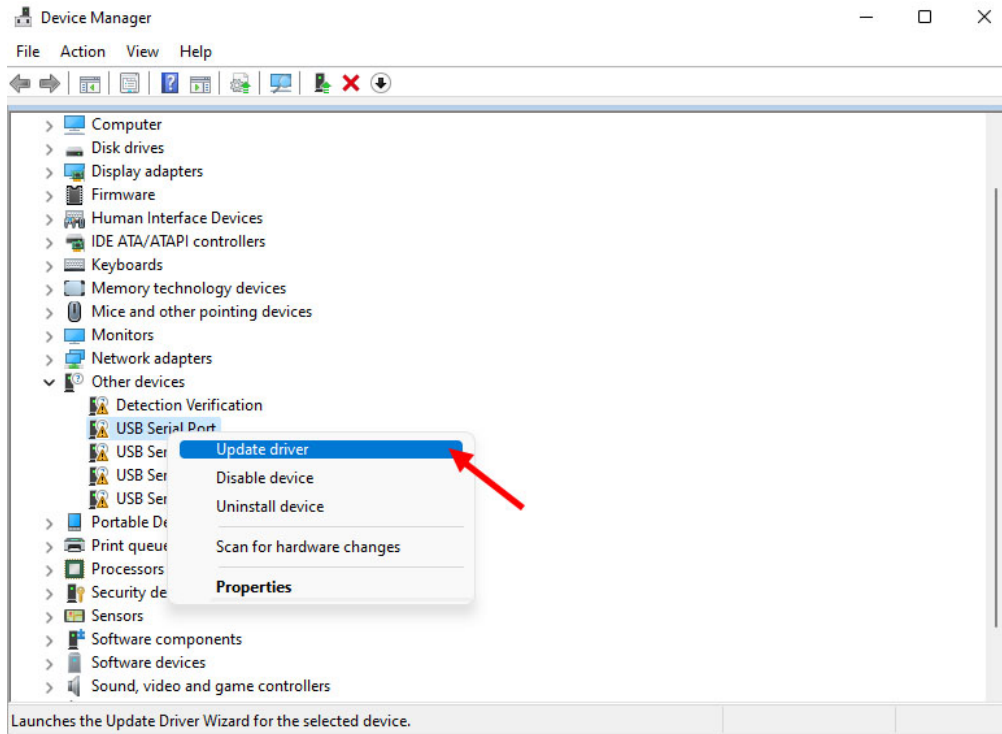


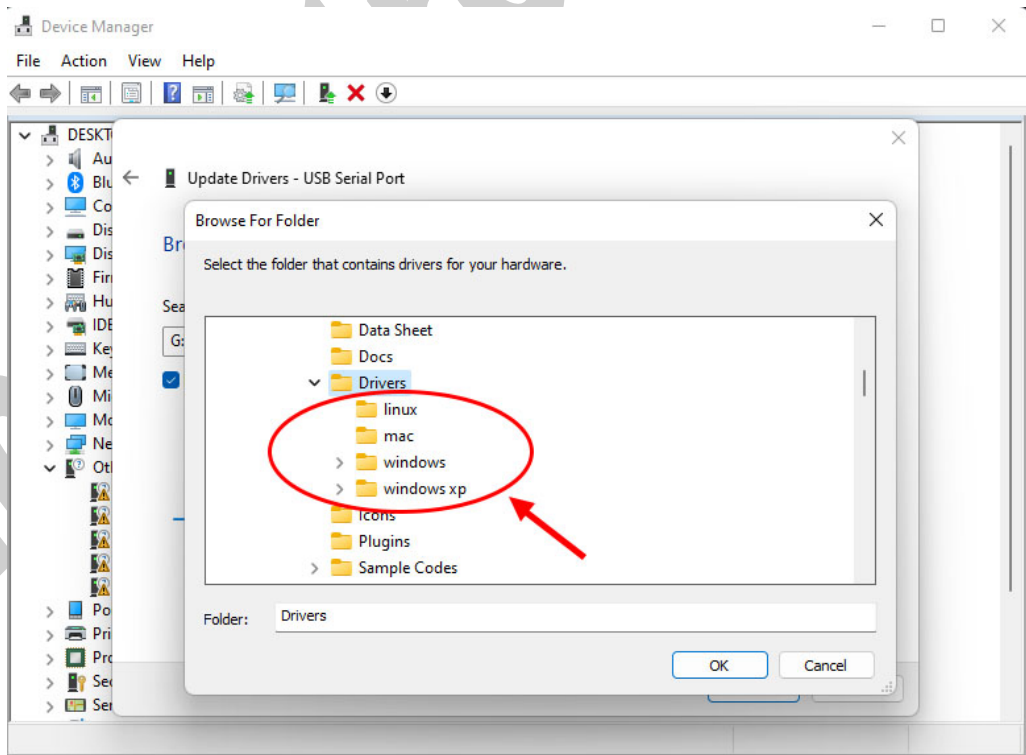
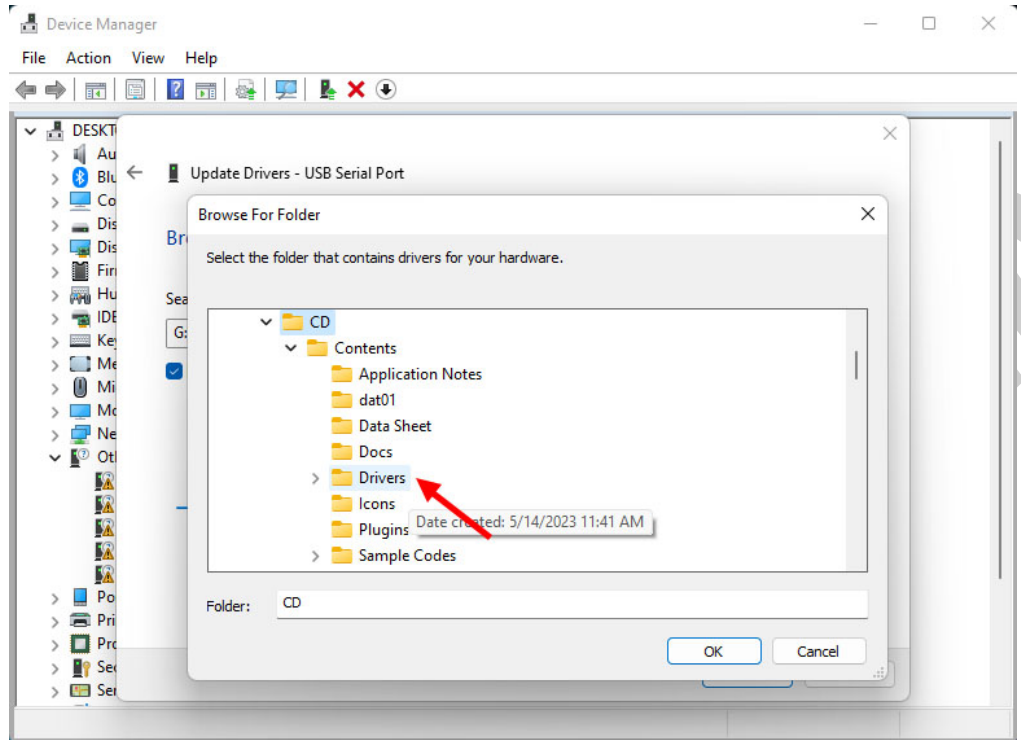
8. MANUAL INSTALLATION ON WINDOWS

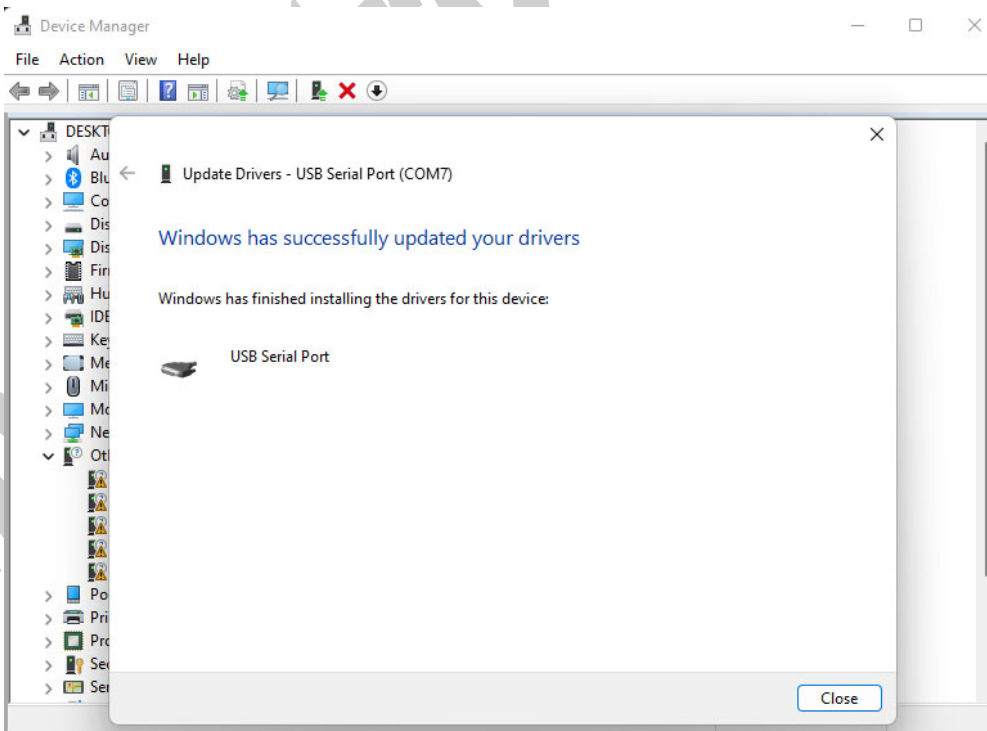
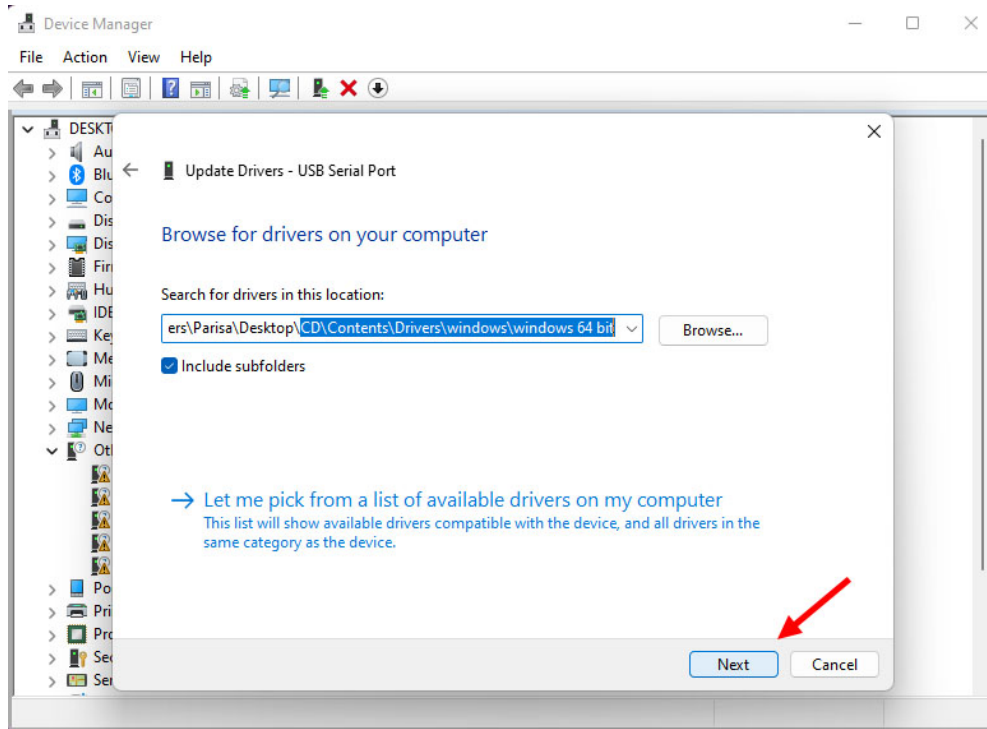
If the installation procedure is not started after you plug the device to your computer you can install the driver manually as follow:

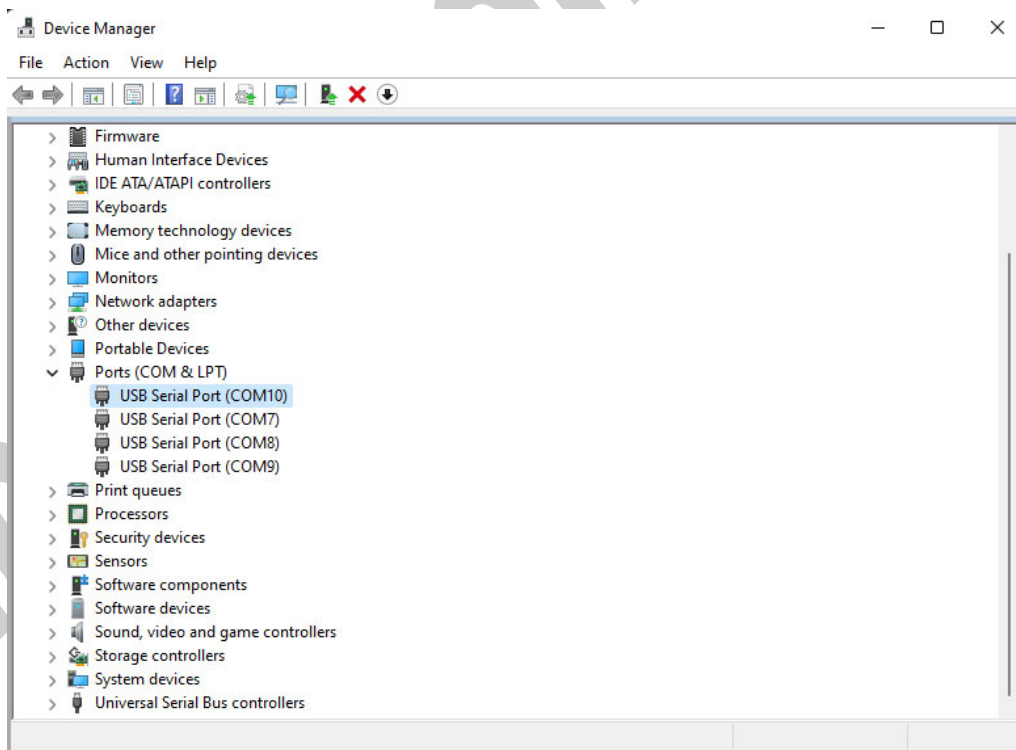
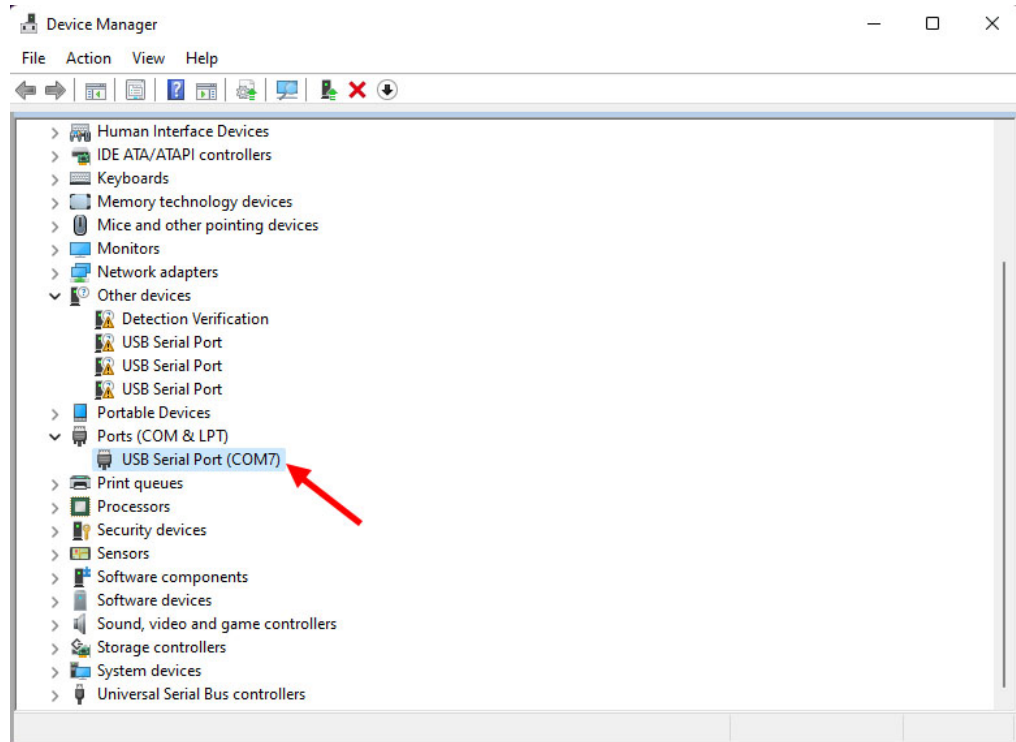


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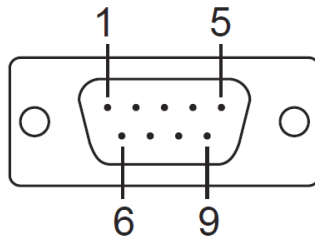


9. IDENTIFYING DEVICE PORTS COM NUMBER

To identify which COM Port belongs to which A380N Port, you can use a terminal utility software like "HYPER TERMINAL" which is exist in the Utility Folder on Installation CD. After running "HYPER TERMINAL", select a COM port and type some characters to transmit them, now you can find port by watching TX LED (Blue LED) of the corresponding port that is blinking on the top panel of the device.

10. RS-232 SERIAL PORTS PIN CONFIGURATION

Male DB9

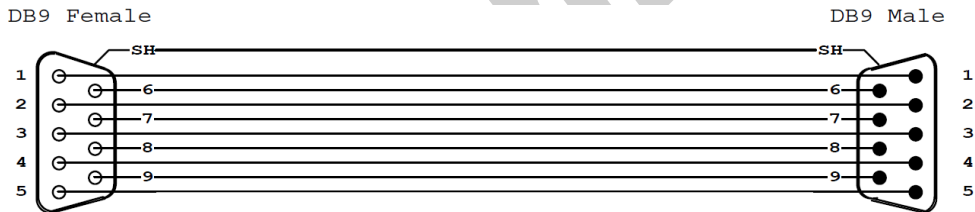


Pin	RS-232
1	DCD
2	RxD
3	TxD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI

12. RS-232 CONNECTING METHODS

- **Modem Connection (to a Modem, any DCE devices)**

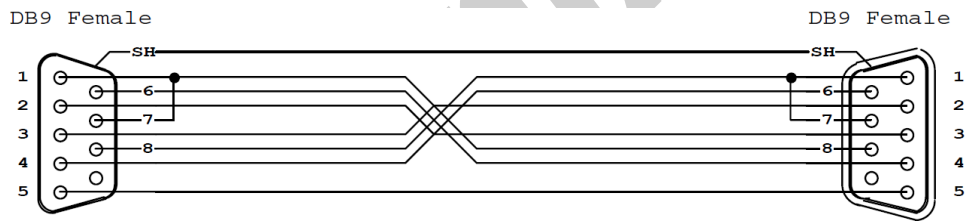
A380N Port as DTE DB9-Male Pin Number		Modem or other DCE devices DB9-Female Pin Number	
Pin 1: DCD	(Input)	Pin 1: DCD	(Output)
Pin 2: RxD	(Input)	Pin 2: RxD	(Output)
Pin 3: TxD	(Output)	Pin 3: TxD	(Input)
Pin 4: DTR	(Output)	Pin 4: DTR	(Input)
Pin 5: GND	(Ground)	Pin 5: GND	(Ground)
Pin 6: DSR	(Input)	Pin 6: DSR	(Output)
Pin 7: RTS	(Output)	Pin 7: RTS	(Input)
Pin 8: CTS	(Input)	Pin 8: CTS	(Output)
Pin 9: RI	(Input)	Pin 9: RI	(Output)



(Modem Cable)

- **Null Modem Connection (to PC, PLC, RTU or any other DTE devices)**

A380N Port as DTE DB9-Male Pin Number		PC,PLC or other DTE devices DB9-Male Pin Number	
Pin 1: DCD	(Input)	Pin 7: RTS	(Output)
Pin 2: RxD	(Input)	Pin 3: TxD	(Output)
Pin 3: TxD	(Output)	Pin 2: RxD	(Input)
Pin 4: DTR	(Output)	Pin 6: DSR	(Input)
Pin 5: GND	(Ground)	Pin 5: GND	(Ground)
Pin 6: DSR	(Input)	Pin 4: DTR	(Output)
Pin 7: RTS	(Output)	Pin 8: CTS	(Input)
Pin 8: CTS	(Input)	Pin 7: RTS	(Output)
Pin 7: RTS	(Output)	Pin 1: DCD	(Input)

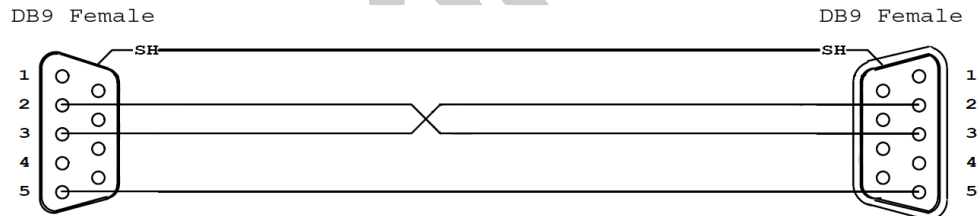


(Null Modem Cable)

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- **Simple Null Modem Connection (to PC, PLC... Without Hardware Flow control)**

A380N Port as DTE DB9-Male Pin Number	PC, PLC or other DTE devices DB9-Male Pin Number
Pin 2: RxD (Input)	Pin 3: TxD (Output)
Pin 3: TxD (Output)	Pin 2: RxD (Input)
Pin 5: GND (Ground)	Pin 5: GND (Ground)



(Simple Null Modem Cable (Without Hardware Handshaking))

13. RS-485 SERIAL PORTS PIN CONFIGURATION

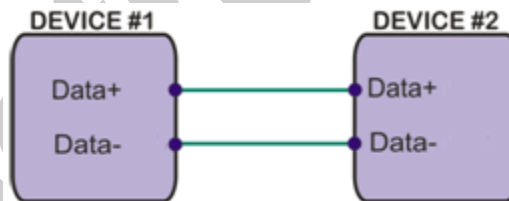
PIN	NAME	TYPE
1	—	—
2	—	—
3	DATA+	OUTPUT
4	DATA-	OUTPUT
5	GND	GROUND
6	GND	GROUND

RS-485

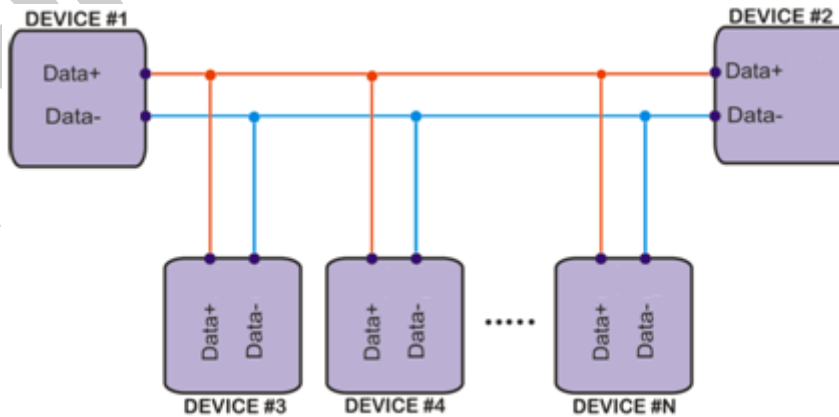


14. RS-485 CONNECTING METHODS

- **RS-485: Point to Point Connection**



- **RS-485: Multipoint Network**



15. RS-422 SERIAL PORTS PIN CONFIGURATION

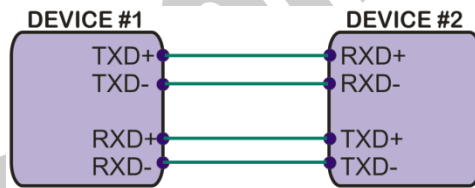
PIN	NAME	TYPE
1	RxD+	INPUT
2	RxD-	INPUT
3	TxD+	OUTPUT
4	TxD-	OUTPUT
5	GND	GROUND
6	GND	GROUND

RS-422

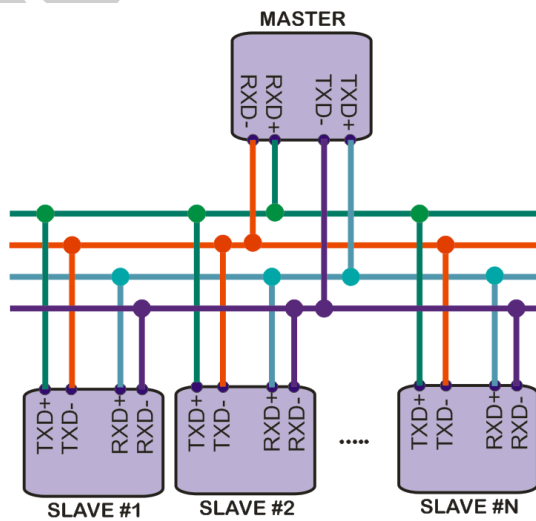


16. RS-422 CONNECTING METHODS

- **RS-422: Point to Point**



- **RS-422: Multi-Drop Network**



17. GUARANTEE

All products manufactured by **IPEX** are under warranty regarding defective materials for a period of one year from the date of delivery to the original purchaser.

18. TECHNICAL SUPPORT

If you have any technical question or need any technical support, please contact us using this Email address: support@ipelectronix.com.

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