



IO-6COM User Manual

Issue 1.0

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Security Guidance

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- The contents of this user manual may not be reproduced, modified, reprinted, distributed, or published in any form without prior written permission from CoreIPC.
- To help you use the CoreIPC motherboard, please read the [User Manual] carefully.
- For product-related information, please be sure to read these safety instructions carefully.
- Identifying the Product Version
You can find the version of this motherboard labeled [Issue:X.X] on the motherboard itself. X.X represents a number; for example, a label reading [Issue1.0] indicates that the version of this motherboard is 1.0. Please note the product version when updating the motherboard's BIOS or drivers, or when referring to other technical documentation.

Basic Safety Tips

1. Before using this product, please be sure to read the product manual carefully.
2. Any cards not yet ready for installation should be stored in anti-static bags.
3. Before removing the board from the antistatic bag, place your hand on a grounded metal object for a moment (such as 10 seconds) to discharge any static electricity from your body and hands.
4. When handling circuit boards, you must wear anti-static gloves and make it a habit to touch only the edges.
5. To prevent electric shock or damage to the product, be sure to turn off the AC power before inserting, removing, or reconfiguring the board.
6. Before moving a board or the entire unit, you must first turn off the AC power.
7. For complete systems, be sure to turn off the AC power before adding or removing any boards.
8. Before connecting or disconnecting any device, you must first turn off the AC power.
9. To avoid unnecessary damage to the product caused by frequent power cycles, wait at least 30 seconds after turning it off before turning it back on.

1. Product Description

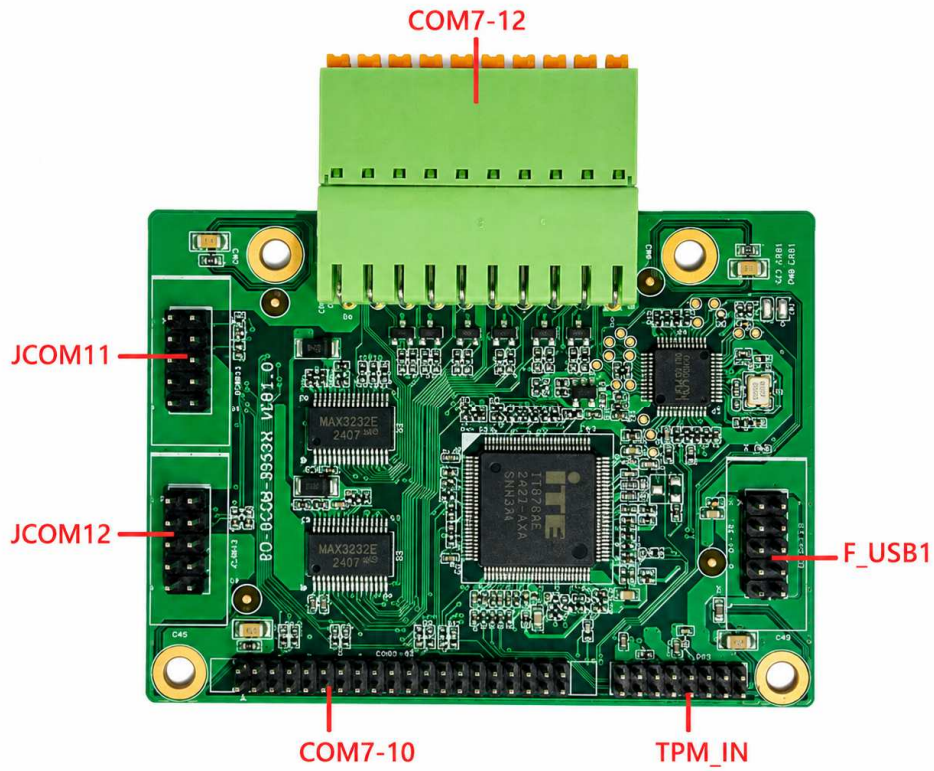
The IO-6COM-3D5PH is a compact industrial serial expansion card designed to provide flexible multi-port serial communication expansion for industrial computer systems. It supports USB-to-6-port serial conversion, LPC-to-6-port serial conversion, and TTL-to-6-port serial conversion, offering a reliable solution for applications requiring multiple serial interfaces.

Designed with industrial integration requirements in mind, the IO-6COM-3D5PH supports direct signal connection through onboard pin headers and provides a 2×10-pin Phoenix terminal interface for convenient serial signal output. With its compact 80mm × 60mm form factor, the expansion card is suitable for integration into embedded systems, industrial PCs, automation controllers, and other space-constrained applications.

The IO-6COM-3D5PH provides flexible serial expansion options through multiple interfaces, including USB, LPC, and TTL signal conversion, allowing system designers to expand serial communication capabilities according to different hardware platforms and application requirements.

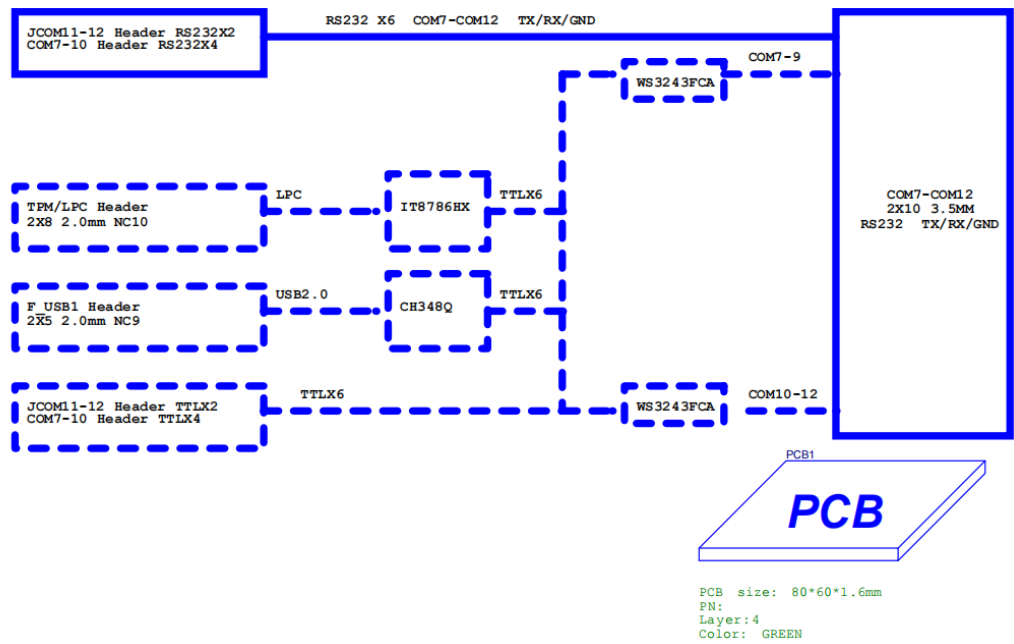
The main features of the IO-6COM expansion card are as follows:

- Supports USB-to-6-port serial conversion
- Supports LPC signal-to-6-port serial conversion
- Supports TTL-to-6-port serial conversion
- Supports direct Pin-to-Pin signal connection
- Provides 2×10-pin Phoenix terminal interface for serial signal output
- Compact 80mm × 60mm board size for easy system integration
- Multiple onboard headers for flexible serial interface configuration



Dimensions: 80mm x 60mm

2. Product Framework



3. Pin Definitions

3.1 The motherboard provides one 2x10-pin COM Phoenix terminal for serial signal connection (pin pitch: 3.5mm).

The pin definitions are as follows:

PIN	Signal name	PIN	Signal name
1	GND	2	GND
3	RX_12	4	Tx_12
5	Rx_11	6	Tx_11
7	GND	8	GND
9	Rx_10	10	Tx_10
11	Rx_9	12	Tx_9
13	GND	14	GND
15	Rx_8	16	Tx_8
17	Rx_7	18	Tx_7
19	GND	20	GND

3.2 The motherboard provides a 2x5-pin F_USB1 header for conversion to six serial ports (pin pitch: 2.54mm).

The pin definitions are as follows:

PIN	Signal name	PIN	Signal name
1	+5V	2	+5V
3	Data0-	4	N/C
5	Data0+	6	N/C
7	GND	8	GND
9		10	GND

3.3 The motherboard features two onboard 2x8-pin LPC IN headers for conversion to six serial ports (pin pitch: 2.00mm).

The pin definitions are as follows:

PIN	Signal name	PIN	Signal name
1	LAD1	2	3.3V
3	LAD2	4	3.3V
5	LAD3	6	PCICK
7	LAD4	8	PSON-
9	-LFRAME	10	NC
11	SERIRQ	12	PLTRST
13	3.3V	14	3.3V
15	VCC_RTC	16	+5V

3.4 The motherboard features two onboard 2x5-pin headers (JCOM11, JCOM12) for direct signal connection (2.54mm pitch).

The pin definitions are as follows:

PIN	Signal name	PIN	Signal name
1	NC	2	RXD
3	TXD	4	NC
5	GND	6	NC
7	RTS	8	NC

9	NC	10	NC
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3.5 The motherboard features two built-in JCOM7-10 headers (2x5-pin) for direct connection from the onboard serial port headers to Phoenix terminals (2.00mm pitch).

Pin definitions are as follows:

PIN	Signal name	PIN	Signal name
1	NC	2	COM7_RXD
3	COM7_TXD	4	NC
5	GND	6	NC
7	NC	8	NC
9	NC	10	NC
11	NC	2	COM8_RXD
13	COM8_TXD	4	NC
15	GND	6	NC
17	NC	8	NC
19	NC	10	NC
21	NC	2	COM9_RXD
23	COM9_TXD	4	NC
25	GND	6	NC
27	NC	8	NC
29	NC	10	NC
31	NC	2	COM10_RXD
33	COM10_TXD	4	NC
35	GND	6	NC
37	NC	8	NC
39	NC	10	NC