# Flex I/O Series

## I/O Expansion Module for MIC-7 Series



## Features

- Flexible expansion for various I/O connection
- Flex I/O expansion on the front panel for same-side cabling
- Support various display interfaces and the 3rd output
- Support I/O and intelligent alarm function
- Expand two more LAN ports
- Expand for 2 x 2.5" SSD
- Support TPM module
- MIC-7 Series compatible

## Introduction

Flex I/O series modules provide flexible expansion for MIC-7 Series so customers can enjoy display, more control, and better communication via Flex I/O. All Flex I/O are attached directly from connectors reserved on the MIC-7 series main board and installed on the front panel, making it easy to fulfill machine, factory automation, and IEM deployments.

## Flex I/O Assembly Example

### Small Flex I/O




### Regular Flex I/O




### Small + Regular Flex I/O




### Advanced Flex I/O




### Full Flex I/O

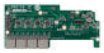



98R17500601 + 98910770350 + 98R17511000,
98R17511000 only contain bracket.



All product specifications are subject to change without notice.

## Compatible Table

| Flex I/O | Function | Part Number | MIC-7700 | | | MIC-770 V1 | | MIC-770 V2 | | MIC-770 V3 | | MIC-780 | | MIC-785 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | MIC-7700Q-A2 | MIC-7700Q-B1 | MIC-7700H | MIC-770Q | MIC-770H | MIC-770W | MIC-770H | MIC-770W | MIC-770H | MIC-780W | MIC-780H | |
| **Small FIO** | | | | | | | | | | | | | | |
|  | Remote Switch | 98R17500701 | - | - | - | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
|  | HDMI | 98R17502000 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | - | - | - |
|  | Display Port | 98R17503000 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | - | - | - |
|  | DVI | 98R17504000 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | - | - | - |
|  | Reset & Remote Switch & 5VDC (SATA) | 98R17500803 | - | - | - | - | - | - | - | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Regular FIO** | | | | | | | | | | | | | | |
|  | GPIO module (32bit) | AIIS-DIO32-00A1E | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
|  | DVI | 98R17500001 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | - | - | - |
|  | HDMI & Remote Switch | 98R17500101 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | - | - | - |
|  | HDMI | 98R17500301 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | - | - | - |
|  | Remote Switch | 98R17500401 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
|  | 4x COM RS-232 | 98R17500601 | - | - | - | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
|  | Reset & Remote Switch & 5VDC | 98R17500801 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | - | - | - | - | - |
|  | Reset & Remote Switch & 5VDC (SATA) | 98R17500802 | - | - | - | - | - | - | - | ✓ | ✓ | ✓ | ✓ | ✓ |
|  | 16 bit GPIO | 98R17500901 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
|  | Display Port | 98R17501001 | ✓ | ✓ | ✓ | - | - | ✓ | ✓ | ✓ | ✓ | - | - | - |
|  | Dual LAN | 9891790040E | ✓ | - | - | - | - | - | - | - | - | - | - | - |
| **Advanced FIO** | | | | | | | | | | | | | | |
|  | 2 x Lan, i210AT | 98910770320 | - | - | - | ✓ | - | ✓ | - | ✓ | - | ✓ | - | ✓ |
|  | NVME +4 x Lan, i210AT | 98910770330 | - | - | - | ✓ | - | ✓ | - | ✓ | - | ✓ | - | ✓ |
|  | 2 x Lan, i226V | 98910770340 | - | - | - | ✓ | - | ✓ | - | ✓ | - | ✓ | - | ✓ |
|  | NVME +4 x Lan, i226V | 98910770350 | - | - | - | ✓ | - | ✓ | - | ✓ | - | ✓ | - | ✓ |
|  | NVME | 98910770401 | - | - | - | ✓ | - | ✓ | - | ✓ | - | ✓ | - | ✓ |
|  | 4 x PoE | 98910770501 | - | - | - | ✓ | - | ✓ | - | ✓ | - | ✓ | - | ✓ |
|  | 4 x USB | 98917701000 | - | - | - | ✓ | - | ✓ | - | ✓ | - | ✓ | - | ✓ |
|  | 8 x USB | 98917701100 | - | - | - | ✓ | - | ✓ | - | ✓ | - | ✓ | - | ✓ |
| **Full FIO** | | | | | | | | | | | | | | |
|  | Dual LAN | 9891790041E | - | ✓ | - | - | - | - | - | - | - | - | - | - |
|  | 2 x LAN & 2 x DB9 | 98R17511000** | - | - | - | ✓ | - | ✓ | - | ✓ | - | ✓ | - | ✓ |
|  | 4 x LAN & 2 x DB9 | 98R17512000** | - | - | - | ✓ | - | ✓ | - | ✓ | - | ✓ | - | ✓ |
|  | 4 x USB & 2 x DB9 | 98R17513000** | - | - | - | ✓ | - | ✓ | - | ✓ | - | ✓ | - | ✓ |
| **Featured** | | | | | | | | | | | | | | |
|  | TPM 2.0 module (LPC) | PCA-TPM-00B1E | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | - | - | - | - | - |
|  | TPM 2.0 module (SPI) | PCA-TPMSPI-00A1 | - | - | - | - | - | - | - | ✓ | ✓ | ✓ | ✓ | ✓ |
|  | 2x SSD kit | 98R1752020E | ✓ | - | - | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | - | - | - |

* H SKU does not support. Please refer to Advanced Flex I/O datasheet for more detail.
** 98R17511000 & 98R17512000 only contain bracket.
Note: For the additional display port (DVI/HDMI/DP), please refer to the MIC-7 series datasheet.

# Ordering Information

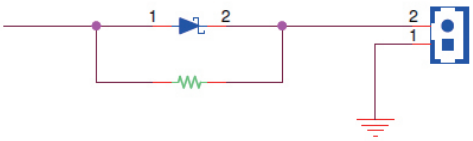
| Part Number | Description |
|---|---|
| | **Small FIO** |
| 98R17500701 | MIC Remote Switch kit for SFIO |
| 98R17502000 | MIC HDMI kit for SFIO |
| 98R17503000 | MIC Display Port kit for SFIO |
| 98R17504000 | MIC DVI kit for SFIO |
| 98R17500803 | MIC Reset/Remote power on/off/5VDC kit FIO (SATA) for SFIO |
| | **Regular FIO** |
| AIIS-DIO32-00A1E** | AIIS GPIO (32 bit) |
| 98R17500001 | MIC DVI kit FIO |
| 98R17500101 | MIC HDMI/Remote Switch kit FIO |
| 98R17500301 | MIC HDMI kit FIO |
| 98R17500401 | MIC Remote Switch kit FIO |
| 98R17500601 | MIC COMport kit FIO (4x COM RS-232 via 2x dual DB9 cable) |
| 98R17500801 | MIC Reset/Remote Switch/5VDC kit FIO |
| 98R17500802 | MIC Reset/Remote power on/off/5VDC kit FIO (SATA) |
| 98R17500901 | MIC GPIO kit (2x 8 bit GPIO cables) |
| 98R17501001 | MIC Display Port kit FIO |
| 9891790040E* | MIC Dual LAN kit FIO |
| | **Advanced Flex I/O** |
| 98910770320 | MIC 2 x Lan, i210AT, AFIO |
| 98910770330 | MIC NVME +4 x Lan, i210AT, AFIO |
| 98910770340 | MIC 2 x Lan, i226V, AFIO |
| 98910770350 | MIC NVME +4 x Lan, i226V, AFIO |
| 98910770401 | MIC NVMe, AFIO |
| 98910770501*** | MIC 4 x PoE, i350, AFIO |
| 98917701000 | MIC 4 x USB, AFIO |
| 98917701100*** | MIC 8 x USB, AFIO |
| | **Full FIO** |
| 98R17511000**** | MIC 2 x LAN + 2 x DB9, BKT Kit |
| 98R17512000**** | MIC 4 x LAN + 2 x DB9, BKT Kit |
| 98R17513000**** | MIC 4 x USB + 2 x DB9, BKT Kit |
| 9891790041E* | MIC Dual LAN kit FIO |
| | **Featured** |
| PCA-TPM-00B1E | TPM 2.0 module (LPC) |
| PCA-TPMSPI-00A1 | TPM 2.0 module (SPI) |
| 98R1752020E | 2 x 2.5" SSD kit (7mm thick) |

Note: Cable/module, cover and screws are included.
*Can't support PCA-TPM-00B1E when install 9891790040E.
** Can only be placed in the small FIO location and can't be installed with other flex IO.
*** Can't be installed with other flex IO.
**** 98R17511000 & 98R17512000 only contain bracket.

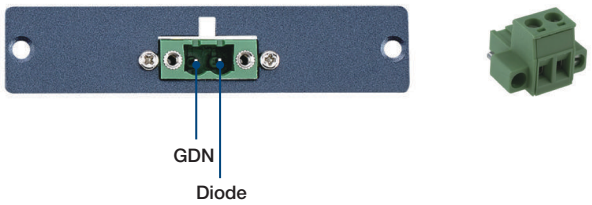
# Pin Definition

### 98R17500101, 98R17500401, 98R17500701

Remote switch pin definition



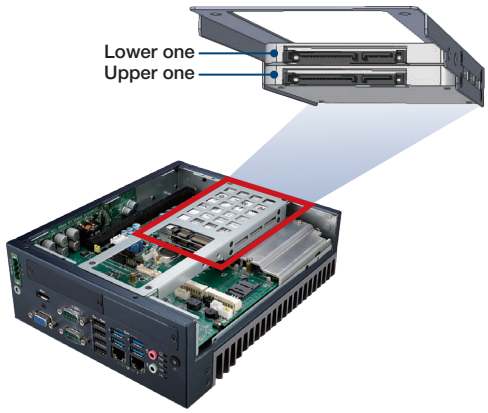

Connector pin definition




Note: 2-pin phoenix contact terminal block is included in remote switch kit. Can connect to ATX power button via cable. Remote switch supports ATX power button via 2-pin (power button is not included).

### 98R1752020E 2x 2.5" SSD kit Assembly

2 × 2.5" SSD assembled in the dual SSD tray

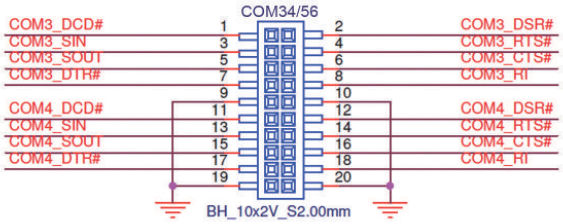



Example: Assembled inside of MIC-770

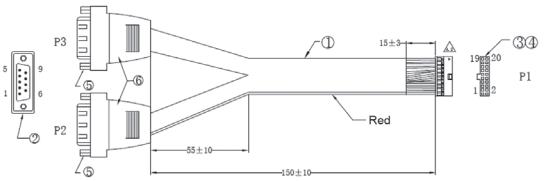
Note 1: Compilable with MIC-7 series Flex I/O and Advanced Flex I/O
Note 2: Support 2 x 2.5" 7mm thick SSD only (HDD is not recommended)
Note 3: SSD is not included

### 98R17500601

COM 34/56 pin definition

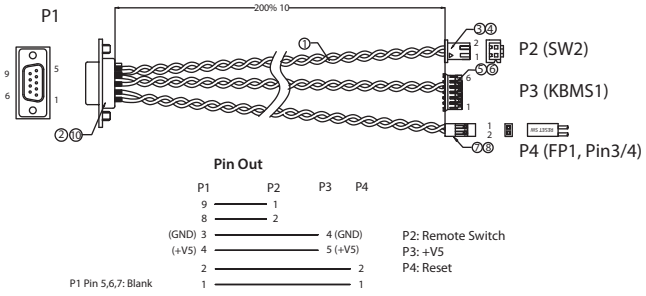



DB9 Connector pin definition

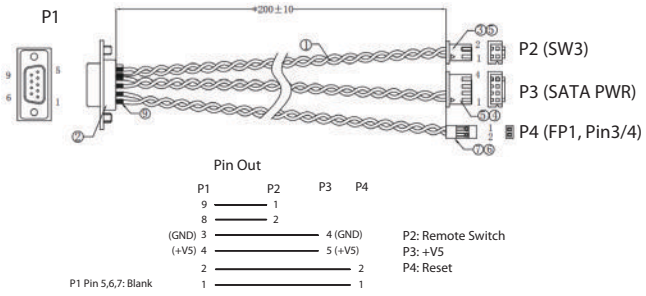





## 98R17500801

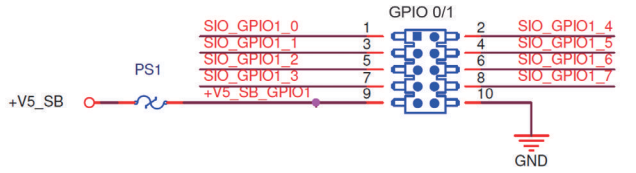


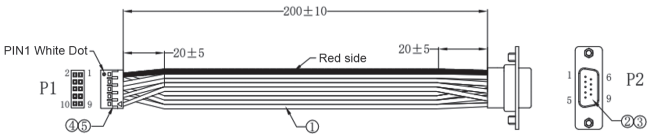

## 98R17500802/98R17500803




## 98R17500901

GPIO 0/1 pin definition




PIN OUT

| P1 | Red | P2 |
|---|---|---|
| 1 | | 1 |
| 3 | | 2 |
| 5 | | 3 |
| 7 | | 4 |
| 10 | | 5 |
| 2 | | 6 |
| 4 | | 7 |
| 6 | | 8 |
| 8 | | 9 |

Note 1: GPIO0 and GPIO1 pin definition are the same.
Note 2: P1 Pin 9: Blank

## AIIS-DIO32-00A1E

DIO pin definition

| | | | |
|---|---|---|---|
| Digital In | Pin01 => IDI0 | Digital In | Pin20 => IDI1 |
| | Pin02 => IDI2 | | Pin21 => IDI3 |
| | Pin03 => IDI4 | | Pin22 => IDI5 |
| | Pin04 => IDI6 | | Pin23 => IDI7 |
| | Pin05 => IDI8 | | Pin24 => IDI9 |
| | Pin06 => IDI10 | | Pin25 => IDI11 |
| | Pin07 => IDI12 | | Pin26 => IDI13 |
| | Pin08 => IDI14 | | Pin27 => IDI15 |
| | Pin09 => [GND] | | Pin28 => [GND] |
| | Pin10 => PCOM1 | | Pin29 => [GND] |
| Digital Out | Pin11 => IDO0 | Digital Out | Pin30 => IDO1 |
| | Pin12 => IDO2 | | Pin31 => IDO3 |
| | Pin13 => IDO4 | | Pin32 => IDO5 |
| | Pin14 => IDO6 | | Pin33 => IDO7 |
| | Pin15 => IDO8 | | Pin34 => IDO9 |
| | Pin16 => IDO10 | | Pin35 => IDO11 |
| | Pin17 => IDO12 | | Pin36 => IDO13 |
| | Pin18 => IDO14 | | Pin37 => IDO15 |
| | Pin19 => PCOM2 | | |

DB37 connector pin definition

