



or TWR-SER

TOWER SYSTEM



Tower Serial Module User Manual

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semiconductor



The IWR-SER module

Primary Connector

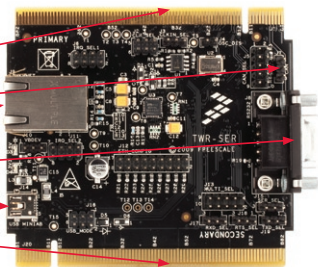
CAN Connector

Ethernet Connector

RS232/485 Connector

Mini-AB USB Connector

Secondary Connector



Jumpered Options

The following is a list of all the jumpered options. The **default** installed jumper settings are shown in bold.

| Jumper | Option | Setting | Description |
|--------|-------------------------------|-------------|---|
| J2 | Ethernet PHY Clock Select | 1-2 | 25 MHz |
| | | 3-4 | 50 MHz |
| | | 5-6 | CLOCKOUT0 |
| J3 | CLOCKIN0 Driver Select | 1-2 | Route 25MHz clock to CLOCKIN0 |
| | | 2-3 | Route 50MHz clock to CLOCKIN0 |
| J5 | CAN Selection Options | 1-2 | Put CAN transceiver into sleep mode |
| | | 3-4 | Connect Sleep pin to CAN pin (B43) |
| | | 5-6 | Connect RXD pin to CANRX pin (B41) |
| | | 7-8 | Connect TXD pin to CANTX pin (B42) |
| J6 | Ethernet PHY Interrupt Select | 9-10 | Apply 120ohm termination resistor |
| | | 1-2 | IRQ_H |
| | | 3-4 | IRQ_F |
| | | 5-6 | IRQ_D |
| | | 7-8 | IRQ_B |
| J10 | USB VBUS Select | 1-2 | Supply 5V on USB Connector (Host Mode) |
| | | 2-3 | Source 5V from USB (Bus-powered Device) |



| Jumper | Option | Setting | Description |
|--------|--|------------|---|
| J11 | USB OTG Interrupt Select | 1-2 | IRQ_H |
| | | 3-4 | IRQ_F |
| | | 5-6 | IRQ_D |
| | | 7-8 | IRQ_B |
| J12 | Ethernet PHY Configuration | 1-2 | Pull-up PHYAD2; PHY Address Select |
| | | 3-4 | Pull-up PHYAD1; PHY Address Select |
| | | 5-6 | Pull-down PHYAD0; PHY Address Select |
| | | 7-8 | Pull-up CONFIG2; Loopback Select |
| | | 9-10 | Pull-up CONFIG0; RMI Select |
| | | 11-12 | Pull-up ISO; Isolation Mode Select |
| | | 13-14 | Pull-down SPEED; 10Mbps Select |
| | | 15-16 | Pull-down DUPLEX; Half-duplex Select |
| 17-18 | Pull-down NWAYEN; Disable Auto-Negotiation | | |
| J13 | Misc RS232/485 Config | 1-2 | Connect RS485 Receive En and Driver En |
| | | 3-4 | Connect RS485 RX+ to TX+; Loopback |
| | | 5-6 | Connect RS485 RX- to TX-; Loopback |
| | | 7-8 | Enable ELE_CTS (A9) as RS232 CTS |
| | | 9-10 | Supply 5V on DB9 pin 6 |
| J15 | RS232 / RS485 Select | 1-2 | RS232 |
| | | 2-3 | RS485 |
| J16 | USB Mode Select | 1-2 | Host Mode—supply 5V to VBUS |
| | | 3-4 | Device Mode—source 5V from VBUS |
| | | 5-6 | OTG Mode—VBUS controlled by OTG Charge Pump |
| J17 | RS232 / RS485 RX Select | 1-2 | RS232 |
| | | 2-3 | RS485 |
| J18 | RS232 / RS485 RTS Select | 1-2 | RS232 |
| | | 2-3 | RS485 |
| J19 | RS232 / RS485 TX Select | 1-2 | RS232 |
| | | 2-3 | RS485 |

How to build your Tower

1. Press the card edge connector of each Tower module into a slot on the Elevator—take care to match the **primary** card edges and plug them into a **Functional Elevator**. A module may be placed into any slot on the Elevator.
2. Press another **Elevator** board onto the **secondary** card edges.



TWR-SER Features

- USB Host, Device, and OTG with Mini-AB connector
- 10/100 Ethernet PHY with MII and RMII interface
- Ethernet connector with integrated magnetics and LEDs
- RS232 and RS485 transceivers and single DB9 connector
- CAN transceiver with 3-pin head



Learn more at www.freescale.com/tower

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