RapidConnect Programming Fixture

ZPRGF-20

The RapidConnect Programming Fixture provides developers with a selection of convenient interfaces for programming and debugging a RapidConnect ZigBee module.

Power

J13 is used to select between USB or user-provided DC power sources. To use the USB connection as a power source, the shorting jumper on J13 should be on pins 1-2 (this is the default position). To use an external DC power source, the shorting jumper must be moved to pins 2-3. The on-board LDO will convert either USB-provided 5V or user-provided external power to 3.3V.

USB Connection
5V up to 325mA

Alternate Power Connectors (J15 or J7 - see I/O section)
Recommended DC Power Source
4-5VDC 325 mA
(Note: If supplying power on J15, do not supply power on J7)

Absolute Max Input Voltage
16VDC *(Note: Higher voltage levels will result in damage to the unit).*

LEDs

Four LED indicators are provided:
TX – Flashes when the module transmits serial data
RX – Flashes when the module receives serial data
MAIN PWR – Lights when there is 3.3V power present on the board
MODULE PWR – Lights when there is 3.3V power present on the ZigBee module

Connectivity

J10 jumper installed on pins 1-2 and pins 3-4 (the default positions for those jumpers)
Normal USB operation - connects module TX/RX pins to USB interface. (Note: COM port will only be present when the module is powered)

Compatibility

The following table shows the module versions that each programming fixture can be used to program.

Fixture SKU	Compatible Module SKU
ZPRGF-20	Z357PA20, Z357PA21
ZPRGF-10	Z357PA10

I/O

Refer to the Ember EM357 data sheet for complete GPIO usage details and specs.

J12 – Ember Debug and Programming InSight Port
Pin 1 = +3.3v	Pin 6 = JCLK/SWCLK
Pin 2 = JTDO/SWO	Pin 7 = JTMS/SWDIO
Pin 3 = nJRST	Pin 8 = nReset
Pin 4 = JTDI	Pin 9 = PTE
Pin 5 = GND	Pin 10 = PTD

J14 – mini-B USB Connector

J2 – Bootloader Mode
Installed = Bootloader mode enabled

J7 – Alternate Power Connection
Pin 1 = Vin
Pin 2 = GND
(Note: When supplying power on J7, install a jumper on J8 pins 1-2 and J13 pin 2-3, and do not connect a DC plug to J15. See Power section)

J1 – EM357 GPIO
J1 pin 1 = +3.3v	J1 pin 6 = PA5
J1 pin 2 = PB3	J1 pin 7 = PB2
J1 pin 3 = PB4	J1 pin 8 = PA6
J1 pin 4 = NRESET	J1 pin 9 = PB1
J1 pin 5 = PA4	J1 pin 10 = GND

All other connections are reserved.

Ordering Information

The RapidConnect Programming Fixture is included in RapidSE or RapidHA Development Kits, but the fixture can also be purchased separately from MMB Networks or its distributors, using the SKU ZPRGF-20.