



Key Points

- Simple Ethernet connectivity for serial devices
- Provides dual Serial-to-Ethernet, GPIO and ADC functionality
- No programming is required

Features

- Two TTL serial ports
- RS-232, RS422/485 ready (require external level shifter)
- Four 12-bit analog to digital inputs
- Up to 10 General Purpose I/O Signals
- 10/100 Ethernet
- Serial to Ethernet over TCP or UDP
- DHCP/Static IP Support
- Baud rates up to 115,200 bps
- Custom serial packetization options
- Hardware and software flow control
- Web Based Configuration

SBL2e

Serial to Ethernet Device with Digital I/O and Analog to Digital Converters

Overview

The SBL2e is a compact low cost multifunction network module that network-enables your product with 10/100 Ethernet, two serial channels, analog to digital inputs and general purpose I/O.

Network-Enable Existing Applications

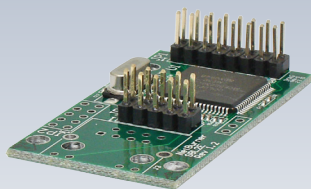
The main function of the SBL2e is for Serial-To-Ethernet connectivity. Simply connect your serial device to one of the two provided TTL level serial ports, select any custom options through the web page interface, and your device will be able to send and receive data through a network connection.

Simple Digital I/O and A/D Input Data

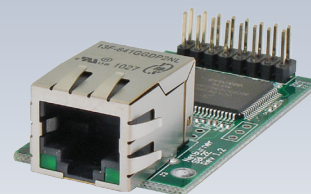
In addition, the SBL2e provides a separate network connection that enables you to read and write the general purpose I/O signals, and read the analog-to-digital inputs. This is independent of the serial streams so you have direct and quick access to control your device.

10-pin header version or RJ-45 version

The SBL2e comes standard with a 10-pin header for the Ethernet and LED signals. There is also a location to add a Ethernet RJ-45 connector.



P/N: SBL2e-200IR



P/N: SBL2e-100IR

Specifications

Processor

32-bit Freescale ColdFire 52236 running at 50 MHz

Analog to Digital

Four 12-Bit, 3.3VDC Max

Digital I/O

Up to 10, 3.3VDC Max

UART Interfaces

Two TTL Serial Interfaces

Maximum UART Baud Rate

Factory application supports up to 115,200 bps.

Network Protocols Supported

TCP, UDP, Telnet, HTTP, DHCP

Physical Characteristics

Dimensions (inches): 1.2" x 2"

Weight: 1 oz

Mounting Holes: 3 x 0.125" dia

Power

DC Input Voltage: 3.3V @ 300mA max

Environmental Operating Temperature

-40° to 85° C

Part Numbers

NetBurner SBL2e-100IR Serial to Ethernet Board with On-board Ethernet Jack

P/N: SBL2e-100IR

The SBL2e-100IR Board is a industrial temperature, RoHS compliant part.

NetBurner SBL2e-200IR Serial to Ethernet Board with 10-pin Ethernet Jack Header

P/N: SBL2e-200IR

The SBL2e-200IR Board is a industrial temperature, RoHS compliant part.

NetBurner SBL2e Evaluation Kit

P/N: EVAL-SBL2E-KIT

Includes a SBL2e-200IR and SBL2e-ADPT-100CR evaluation board with Ethernet RJ-45 , RS-232 serial ports, USB, and a RS-485/422 connector. *This is not a software development kit for custom applications. If you need to modify the standard serial to Ethernet factory application or create your own application, we recommend the SBL2e development kit.*

NetBurner SBL2e Development Kit

P/N: NNDK-SBL2E-KIT

A complete software development kit for creating custom applications for the SBL2e-100IR and SBL2e-200IR. Includes a SBL2e-200IR and SBL2e-ADPT-100CR evaluation board with Ethernet RJ-45 , RS-232 serial ports, USB, and a RS-485/422 connector.

Note:

The SBL2e-200CR version has a 10-pin Ethernet jack header. Please see Table 1 "Module Ethernet Jack Header Pinout and Signal Descriptions" for additional information.

Contact Information

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SBL2e Pinout and Signal Description

The SBL2e board has one dual in-line 16 pin header which enables you to quickly and easily connect to one of our standard NetBurner Adapter Boards, or a board you create on your own. Table 1 provides descriptions of pin function of the JP1 Interface Connector.

Table 1: JP1 NetBurner SBL2e Pinout and Signal Descriptions ⁽¹⁾

| Pin | µP Pin | Function | Alt. Func. | GPIO | Description |
|-----|--------|-----------|-------------------------|------|------------------------------------|
| 1 | 22 | UART0 TX | - | - | UART0 Transmit ¹ |
| 2 | 21 | UART0 RX | - | - | UART0 Receive ¹ |
| 3 | 17 | UART0 RTS | - | Yes | UART0 Request To Send ¹ |
| 4 | 18 | UART0 CTS | - | Yes | UART0 Clear To Send ¹ |
| 5 | | VCC | - | - | Input Voltage 3.3VDC |
| 6 | | GND | - | - | Ground |
| 7 | 68 | ADC0 | - | Yes | Analog to Digital Converter 0 |
| 8 | 67 | ADC1 | - | Yes | Analog to Digital Converter 1 |
| 9 | 66 | ADC2 | - | Yes | Analog to Digital Converter 2 |
| 10 | 65 | ADC3 | - | Yes | Analog to Digital Converter 3 |
| 11 | | GND | - | - | Ground |
| 12 | 23 | UART1 RX | - | Yes | UART1 Receive Data ¹ |
| 13 | 24 | UART1 TX | - | Yes | UART1 Transmit Data ¹ |
| 14 | 79 | UART2 RX | *I2C SCL ^{3,4} | Yes | UART2 Receive ^{1,4} |
| 15 | 80 | UART2 TX | *I2C SDA ^{3,4} | Yes | UART2 Transmit ^{1,4} |
| 16 | 32 | *RSTI | - | - | Processor Reset Input |

Note:

1. Asterisk (*) denotes active low. All input/output lines are 3.3V maximum.
2. All UART signals are TTL Level, external level shifters may be added for RS-232 or RS-422/485 operation
3. If using I²C, pull-up resistors must be added to open drain SDA/SCL signals.
4. I²C and UART2 function only available with development kit.

Table 2: JP3 Board Ethernet Jack Header Pinout and Signal Descriptions ⁽¹⁾

| Pin | Signal | Description |
|-----|------------------|-------------|
| 1 | TX+ | Transmit + |
| 2 | TX- | Transmit - |
| 3 | RX+ | Receive + |
| 4 | NC | No Connect |
| 5 | VCC ¹ | 3.3V |
| 6 | RX- | Receive - |
| 7 | VCC ¹ | 3.3V |
| 8 | GND | Ground |
| 9 | SLED | Speed LED |
| 10 | LDLED | Link LED |

Note:

1. Optional 0.1" dual row 10-pin header
2. The 3.3V pins are used for the magnetics taps and LED power.

Table 3: J3 RJ-45 Header Pinout and Signal Descriptions ⁽²⁾

| Pin | Signal | Description |
|-----|------------------|-------------|
| 1 | TX+ | Transmit + |
| 2 | TX- | Transmit - |
| 3 | RX+ | Receive + |
| 4 | VCC ¹ | 3.3V |
| 5 | VCC ¹ | 3.3V |
| 6 | RX- | Receive - |
| 7 | NC | No Connect |
| 8 | NC | No Connect |
| 9 | VCC ¹ | 3.3V |
| 10 | SLED | Speed LED |
| 11 | VCC ¹ | 3.3V |
| 12 | LDLED | Link LED |

Note:

1. Optional RJ-45 connector with integrated magnetics.
2. The 3.3V pins are used for the magnetics taps and LED power.

SBL2e Connector Diagram

The SBL2e board has two dual in-line headers (the v200 board also has the J3 RJ-45 header instead of the jack) which enables you to quickly and easily connect to one of our standard NetBurner Adapter Boards, or a board you create on your own. Tables 1-3 provides descriptions of pin function of the JP1, JP3 and J3 (v200 only) Interface Connectors and figures 1-2 show their locations.

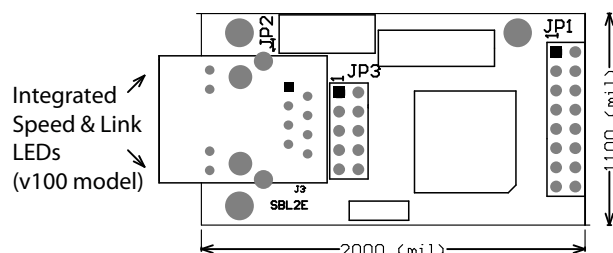


Figure 1: SBL2e-100IR Connector Diagram

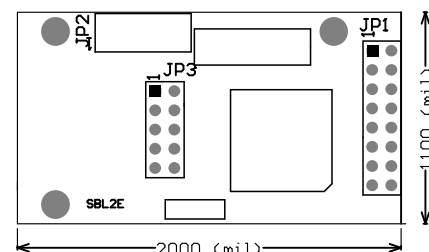


Figure 2: SBL2e-200IR Connector Diagram