DS1102 BASIC-programmable Serial Controller (RS232/422/485)

Tibbo TECHNOLOGY

Features

- 10/100BaseT Ethernet port
- RS232, RS422, and RS485 modes
- 3 channels in the RS232 mode
- Optional 802.11b/g Wi-Fi interface*
- Optional OLED display
- Optional power-over-Ethernet*
- Compact (90x48x25mm)
- DIN rail, wall mounting plates included

* Mutually exclusive

About

The DS1102 is a compact BASIC-programmable controller targeting serial-over-IP and serial control applications.

The DS1102 features a universal RS232/422/485 serial port. The device has a single DB9M connector and is priced as a single-port product, yet provides three independent serial channels (when in the RS232 mode).

Device power can be supplied via its power jack or the optional power-over-Ethernet board*. The DS1102 can also be equipped with a 96x32 monochrome OLED display and Wi-Fi interface*.

There are eight LEDs on the device's front: green and red main status LEDs, a yellow Ethernet link LED, and five blue LEDs, which can be used for Wi-Fi signal strength indication. A buzzer is provided as well.

Each DS1102 is supplied with the DIN rail and wall mounting plates. The device comes preloaded with a fully functional serial-over-IP application.

* Wi-Fi and power-over-Ethernet options are mutually exclusive

Specifications

- Superior upgrade to the DS1206 and DS100B devices.
- Based on the high-performance T1000 IC.
- 10/100BaseT, auto-MDIX Ethernet port.
- Optional 802.11b/g Wi-Fi interface.
- Optional 96x32 monochrome OLED display.
- Optional power-over-Ethernet.
- 1024KB flash for firmware, application, and data.
- 2KB EEPROM for data storage.
- Eight LEDs:
    - Green and red main status LEDs;
    - Yellow Ethernet link LED;
    - Five blue LEDs (can be used for Wi-Fi signal strength indication).

- Software-selectable RS232, RS422, and RS485 modes:
    - Baudrates of up to 921,600bps;
    - None/even/odd/mark/space parity modes;
    - 7/8 bits/character modes;
    - Optional RTS/CTS flow control (RS232/RS422);
    - Direction control (RS485 mode).
- Up to 3 serial channels in the RS232 mode; flexible mapping, such as:
    - 1 channel: RX, TX, CTS, RTS, DSR, DTR;
    - 3 channels: RX, TX, RX2, TX2, RX3, and TX3.
- Built-in buzzer.
- Software-controlled onboard PLL.
- Power: 12VDC nominal (min. 9V, max. 18V).

Specifications (continued)

- Dimensions: 90x48x25mm.
- Operating temperature range: -5 ~ 70 C.
- Firmware is upgradeable through the serial port or network.
- CE- and FCC-certified.
- Included accessories:
  - DIN rail mounting plate
  - Wall mounting plate and two screws

- Optional Accessories:
  - 12V/0.5A adaptor: APR-P0011 (US), APR-P0012 (EU), APR-P0013 (UK)
  - WAS-1499 straight Ethernet cable*
  - WAS-P0004(B) DB9M-to-DB9F serial cable (device-to-PC)
  - WAS-P0005(B) DB9F-to-DB9F serial cable (device-to-device)

  *For this device can be used as crossover cable too

Platform Objects

- Sock — socket comms (up to 16 UDP, TCP, and HTTP sessions).
- Net — controls Ethernet port.
- Wln — handles Wi-Fi interface (when present).
- Lcd — controls the OLED display (when present).
- Ser — in charge of serial channels.
- Io — handles I/O lines, ports, and interrupts.
- Fd — manages flash memory file system and direct sector access.
- Stor — provides access to the EEPROM.

- Romfile — facilitates access to resource files (fixed data).
- Pppoe — accesses the Internet over an ADSL modem.
- Ppp — accesses the Internet over a serial modem (GPRS, etc.).
- Pat — "plays" patterns on green and red status LEDs.
- Beep — generates buzzer patterns.
- Button — monitors the setup button.
- Sys — in charge of general device functionality.

Tibbo Integrated Development Environment (TIDE)

It literally takes one key — F5 — to compile your Tibbo BASIC project, upload it onto the target, and run it with full debugging capabilities. You don't need any special debugging hardware. Just connect your DS1102 to the LAN and debug right through the network.

Project browser
See all objects, system calls, etc.

Call stack
Trace the flow of program execution

Output pane
See compile errors and debug trace messages

Debug toolbar
Start, pause, execute line by line

Code editor
Syntax highlighting, zoom, code hinting, completion

Watch pane
Read and modify variable values

Status bar
See target state in real-time