DS1005 BASIC-programmable Digital I/O Controller

Tibbo TECHNOLOGY

Features

- 10/100BaseT Ethernet port
- IP68-compliant, -30C to +80C range
- Free Tibbo BASIC application available
- 8 digital isolated inputs
- 6 high-power (10A/30VDC) relays
- 1 RS232/485 port (on a terminal block)

About

With eight opto-isolated sensor inputs, six high-power relay outputs, and one simple RS232/485 port, the DS1005 is a great fit for industrial and building automation as well as security, safety, and access control applications.

Unlike many “remote I/O” products, the DS1005’s capabilities are not limited to just relaying I/O data to a central server. Programmability in Tibbo BASIC means you can create systems where intelligent decisions are taken in real-time by the DS1005 itself.

The DS1005 is especially suitable for access control applications: Four of the eight sensor inputs can be used to handle up to two card readers (two inputs per reader), which leaves four sensor inputs for connecting to a door switch, exit button, etc.

The DS1005 comes preloaded with an open-source application for remote control/monitoring of the device’s inputs and relays through a web-browser or Tibbo’s AggreGate device management system. This application can easily be customized for any functionality desired.

Specifications

- Network side — NB1000 board:
  - Based on the EM1000 BASIC-programmable module;
  - 10/100BaseT, auto-MDIX Ethernet port;
  - 1024KB flash for firmware, application, and data storage;
  - 2KB EEPROM for data storage;
  - RTC with backup supercapacitor;
  - Built-in buzzer;
  - 11 status LEDs;
  - Power: 10-18V;
  - Firmware is upgradeable through the serial port or network.
- Interface side — IB1005 board:
  - 8 opto-isolated sensor inputs, four of which can be used to connect up to two Wiegand or clock/data readers;
  - 6 high-power (10A/30VDC) relays;
  - 1 RS232/485 port;
  - 8 status LEDs.
- Dimensions: 91x104x99mm (excluding secondary cover).
- Extruded-profile aluminum body.
- IP68 compliant (when used with secondary cover).

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Specifications (continued)

- Operating temperature -30 to +80 degrees C.
- CE- and FCC-certified.
- Included accessories:
  - DS1000 waterproof kit with secondary cover, cable glands, screws;
  - DMK1000 DIN rail mounting kit;
  - TB1004 test board;
  - WAS-P0040 serial cable for firmware upgrades.
- Optional accessories:
  - 12V/1A adaptor: APR-P0008 (US), APR-P0009 (EU), APR-P0010 (UK);
  - WAS-1499 straight Ethernet cable (for this device can be used as crossover cable too).

Programming

Platform Objects

- Sock — socket comms (up to 16 UDP, TCP, and HTTP sessions).
- Net — controls Ethernet port.
- Ser — up to 4 serial ports (UART, Wiegand, and clock/data modes).
- Io — handles I/O lines, ports, and interrupts.
- Lcd — controls graphical display panels (several types supported).
- Rtc — keeps track of date and time.
- Fd — manages flash memory file system and direct sector access.
- Stor — provides access to the EEPROM.
- Romfile — facilitates access to resource files (fixed data).
- Pat — “plays” patterns on up to five LED pairs.
- Beep — generates buzzer patterns.
- Button — monitors MD line (setup button).
- Sys — in charge of general device functionality.

Function Groups: String functions (21 in total!), date/time conversion functions, and hash calculation functions (md5 and sha1).

Variable Types: Byte, char, integer (word), short, dword, long, real, string, plus user-defined arrays and structures.

Tibbo Integrated Development Environment (TIDE)

All BASIC-programmable Tibbo devices are provided with free TIDE software.

Code in Comfort

Enjoy a modern code editor supporting syntax highlighting, context help, code hinting, and auto-completion.

Debug with Ease

Set breakpoints, watch variables, inspect the stack, step through your code... the built-in debugger in Tibbo IDE provides all the tools for fast and convenient debugging.

Our debugger does not rely on any special hardware like an ICE machine or a JTAG board. Simply connect your Tibbo device to the Ethernet, select it in the IDE, and you are all set!

For more information on TIDE, see http://basic.tibbo.com/product/tide.html