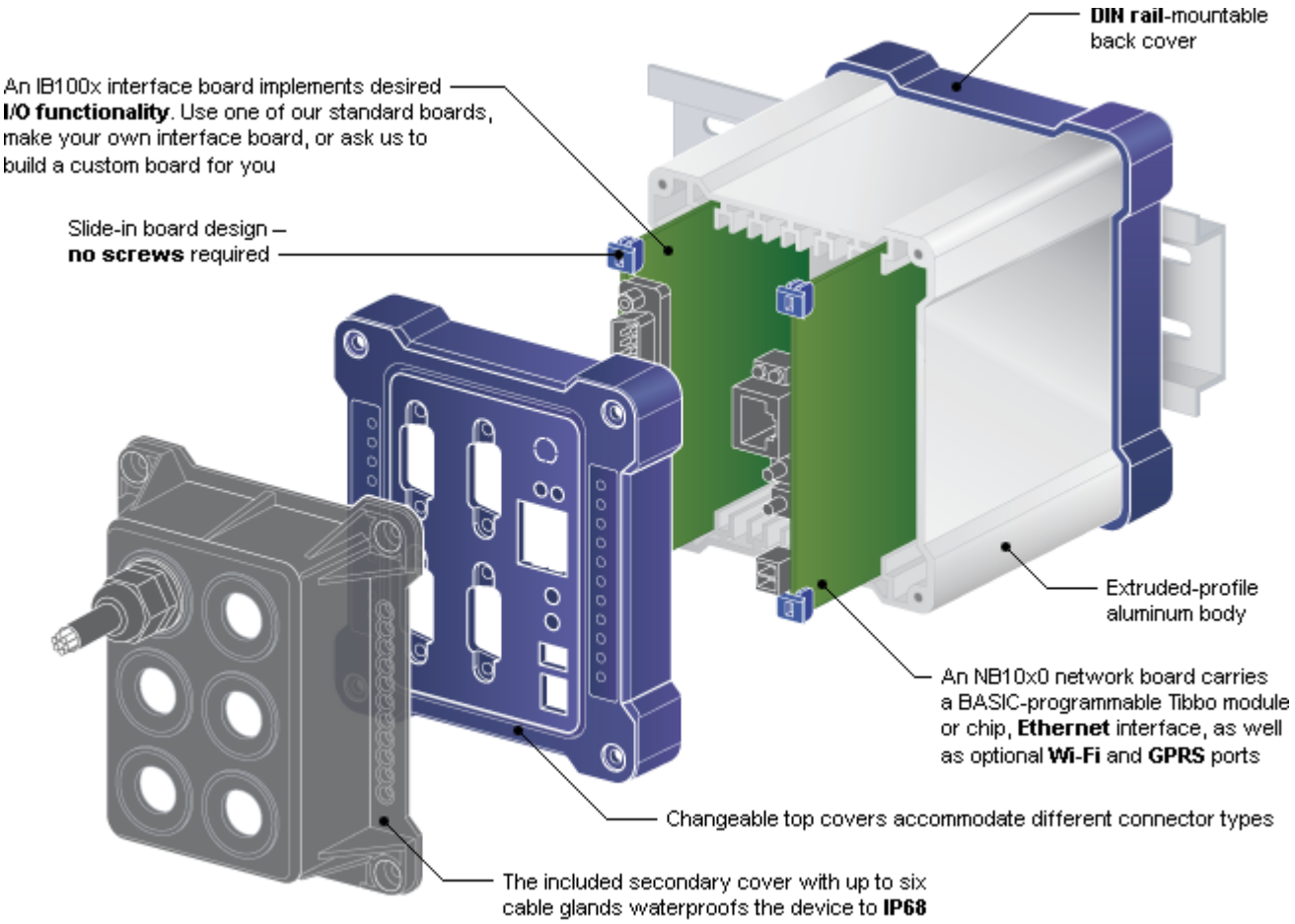
The DS101X BASIC-Programmable Serial Controllers

System Integrators - This One's For You

Access control, security and safety systems, industrial and building automation, remote I/O, data collection ... These are just few of the areas where our DS10xx family of BASIC-programmable industrial controllers will help you achieve your goals under budget and ahead of schedule.

Every integration project is a custom job, which is why our DS10xx platform is designed for easy customization. Slide-in board construction and separation of device functionality into networking and I/O "sides" simplify tailoring to specific project needs. Use one of our standard I/O boards, make your own, or ask us to do it for you!

Going beyond the primitive logic of PLCs, remote I/O, and "quick configuration" products, our DS10xx devices offer you a full-featured programming environment that is also easy to master. Plus, there is a growing number of open-source applications that you can use to jump-start your project!



DS1010/2/3 BASIC-Programmable Multi-Port Controllers

The DS1010, DS1012, and DS1013 are 4-port BASIC-programmable industrial controllers designed primarily for serial-over-IP and serial control projects. They come preloaded with a fully functional serial-over-IPapplication (open-source).

The DS1010/2/3 feature Ethernet, as well as optional Wi-Fi and GPRS.

"0", "2", and "3" devices differ in the type of serial ports they offer:

With four conventional RS232 ports, the DS1010 is ideal for relatively low-cost projects.

For applications requiring a mix of port types, there is the DS1012, which sport universal RS232/422/485 ports with programmable selection of each port's mode.

Finally, especially demanding industrial installations can rely on the DS1013, which add galvanic isolation on top of the universal ports.

Specifications:

- **Interface side** — IB1000, IB1002, or IB1003 board:
  - IB1000 board: four RS232 ports (DS1010);
  - IB1002 board: four RS232/422/485 ports (DS1012);
  - IB1003 board: four isolated RS232/422/485 ports (DS1013);
  - 8 status LEDs.
- **Network side** — NB1010 (DS1010/2/3) board:
  - Based on the EM1000 module;
  - Optional GA1000 Wi-Fi add-on;
  - Optional Telit GC864 GPRS modem;
  - 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;
- Dimensions: 91x104x99mm (excluding secondary cover).
- Extruded-profile aluminum body.
- IP68 compliant (when used with secondary cover).
- Operating temperature -30 to +75 degrees C.
- CE- and FCC-certified.

Included accessories:

Wi-Fi antenna (with DS101xG only)
GPRS antenna (with DS101xC and DS101xGC only)
TB1000 terminal block adaptor (with DS1012/3 only)
DS1010 waterproof kit with secondary cover, cable glands, screws
DMK1000 DIN rail mounting kit

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)
WAS-P0005(B) DB9F-to-DB9F serial cable (device-to-PC)

DS1014 BASIC-Programmable Analog I/O Controller

Featuring high-precision A/D and D/A channels, the DS1014 is ideally suited for measurement and control applications in the fields of building automation (think HVAC), process automation, lab work, etc.

The DS1014 features Ethernet, as well as optional Wi-Fi and GPRS.

Unlike many "remote I/O" products, the capabilities of the DS1014 is 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 device itself.

The capabilities of the DS1014 are further expanded by two low-power relays and one simple RS232/485 port. This port can be used for connecting an auxiliary serial device, a card or barcode reader, or even additional DS101x devices.

The devices come preloaded with an open-source application for remote control/monitoring of the A/D, D/A, and relays through a web-browser or Tibbo's AggreGate device management system. This application can easily be customized for any functionality desired.

Specifications:

- **Interface side** — IB1004 board:
  - 8 A/D inputs (24-bit resolution);
  - 4 D/A outputs (14-bit resolution, voltage/current outputs);
  - 2 low-power (1A/24VDC) relays;
  - 1 RS232/485 port;
  - 8 status LEDs.
- **Network side** — NB1010 (DS1014) board:
  - Based on the EM1000 module;
  - Optional GA1000 Wi-Fi add-on;
  - Optional Telit GC864 GPRS modem;
  - 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;
- Dimensions: 91x104x99mm (excluding secondary cover).
- Extruded-profile aluminum body.
- IP68 compliant (when used with secondary cover).
- Operating temperature -30 to +75 degrees C.
- CE- and FCC-certified.

Included accessories:
Wi-Fi antenna (with DS1014G only)
GPRS antenna (with DS1014C and DS1014GC only)
DS1010 waterproof kit with secondary cover, cable glands, screws
DMK1000 DIN rail mounting kit
TB1004 test board
WAS-P0004 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)

DS1015 BASIC-Programmable Digital I/O Controller

With eight opto-isolated sensor inputs, six high-power relay outputs, and one simple RS232/485 port, the DS1015 is a great fit for industrial and building automation as well as security, safety, and access control applications.

The DS1015 features Ethernet, as well as optional Wi-Fi and GPRS.

Unlike many "remote I/O" products, the capabilities of the DS1015 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 device itself.

The DS1015 are 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 devices come 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:

- **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.
- **Network side** — NB1010 (DS1015) board:
  - Based on the EM1000 module;
  - Optional GA1000 Wi-Fi add-on;
  - Optional Telit GC864 GPRS modem;
  - 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;
- Dimensions: 91x104x99mm (excluding secondary cover).
- Extruded-profile aluminum body.
- IP68 compliant (when used with secondary cover).
- Operating temperature -30 to +75 degrees C.
- CE- and FCC-certified.

Included accessories:
Wi-Fi antenna (with DS1015G only)
GPRS antenna (with DS1015C and DS1015GC only)
DS1010 waterproof kit with secondary cover, cable glands, screws
DMK1000 DIN rail mounting kit
TB1005 test board
WAS-P0004 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)

The Device Comparison Chart

Each DS10xx device is determined by its interface board (IB100x) and network board (NB10x0). All "IB" and "NB" combinations are valid. Need a custom-made "IB" board?

Device	NB board	IB board	External Appearance
DS1010	NB1010: Ethernet interface, Wi-Fi*, GPRS*	IB1000: 4 RS232 ports	
DS1012	NB1010: Ethernet interface, Wi-Fi*, GPRS*	IB1002: 4 RS232/422/485 ports	
DS1013	NB1010: Ethernet interface, Wi-Fi*, GPRS*	IB1003: 4 isolated RS232/422/485 ports	
DS1014	NB1010: Ethernet interface, Wi-Fi*, GPRS*	IB1004: 8 analog inputs, 4 analog outputs, 1 RS232/485 port, 2 low-power relays	
DS1015	NB1010: Ethernet interface, Wi-Fi*, GPRS*	IB1005: 8 digital opto-inputs, 6 high-power relays, 1 RS232/485 port	

** Optional*