

Product Overview

DT50 Series, Serial to Wireless Networking modules

The DT50 series of serial to Wireless Networking modules provide an easy and cost effective way to connect to remote serial devices, create a wireless I/O node, and replace cables. The modules support industry standard wireless technologies including Classic Bluetooth, Bluetooth LE 4.0, dual mode Classic and Bluetooth LE. The Classic Bluetooth Dual Mode module supports LE Serial Port service and the Classic Bluetooth version supports SPP, DUN and PAN services. The Bluetooth range is industrial which provides greater reliability and with a range of up to 300 meters, the DT50 meets many longer range application requirements. The dual mode module also supports up to 7 slaves. The modules are self contained with an internal antenna and can be purchased with an optional external antenna to meet enclosure mounting and other specific customer requirements.



On the serial side the DT50 series supports RS232, RS485, and optionally RS422. This allows the modules to be used in multi-drop environments and supports longer cable runs to serial devices. The serial side supports up to 115.2K baud for the Bluetooth LE models and up to 1.25M baud for Classic Bluetooth models. This significant throughput provides fast data translation and the ability to meet a wider range of application requirements.

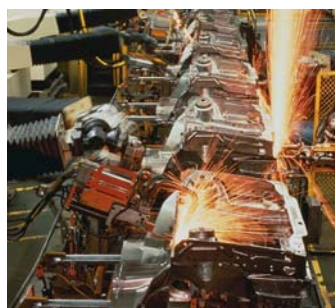
The DT50 modules can optionally contain Digital and Analog I/O. The I/O can be actuated via Bluetooth communications making remote control and remote data collection applications possible. The modules can support up to 2 Digital input and 2 Digital outputs and up to 8 Analog inputs. The Digital I/O supports up to 100mA current and 5-40VDC. This is suitable for relay, pilot LED, and switch applications. Digital I/O can also be either sinking or sourcing. The analog I/O is 0-5VDC standard and 0-10V optionally. The resolution on the analogs is 10 bit.

All DT50 models are compatible with and can be interfaced to your PC, or via Google Android. The Bluetooth LE models also support Apple IOS applications.

Applications

The DT50's Industrial Bluetooth communications makes is perfectly suited for Industrial applications, such as machine control and remote industrial data collection. The product can also be used to provide a remote Android tablet, cell phone or iPhone/iPad interface to remote equipment. Industrial switch gear, transfer switch, medical and diagnostic equipment, lab process equipment, weigh scales, vehicle remote I/O systems, and remote building control are all possible with the DT50 series.

Company Information



Diamond Technologies provides solutions to your Business's Automation, Data Collection, Industrial Networking, and Remote Management challenges. Our customer base includes companies in many diverse industries and applications including semiconductor processing, warehouse and distribution, electrical power equipment manufacturers, discrete parts manufacturing, packaging systems, medical and biomedical equipment manufacturers, pharmaceutical applications, weigh scale manufacturers, electrical power suppliers, automatically guided vehicles and robotics, industrial manufacturers of consumer products, and government.

We pride ourselves on our industry knowledge and bringing innovative ideas to our customer base.

Technical Specifications

Module:

- Operating Temperature: 0 Deg C to 70 Deg C.
- Input Voltage:
Via DB9: 6 – 15 VDC.
Via J7: 9 – 30 VDC
- Input Current: 100 mA max, 50 mA typ.
- RoHS compliant.

Bluetooth Classic Model:

- Bluetooth version: v2.1
- Antenna range: 75 m (internal) or 150 m (external)
- Profiles: SPP, DUN, PAN
- Throughput: 950 kbps
- Max number of slaves: 3
- Android support: Yes
- iPhone support: No

Bluetooth Low Energy Model:

- Bluetooth version: v4.0 low energy single-mode (Bluetooth Smart)
- Profiles: GATT based connectBlue Low Energy Serial Port Service
- Antenna range: 200 m (approximate, line-of-sight)
- Throughput: TBD
- Max number of slaves: 3
- Android support: Yes
- iPhone support: Yes (optional for classic, or via low energy)

Bluetooth Dual Mode Model:

- Bluetooth version: v4.0 low energy dual-mode (Bluetooth Smart Ready)
- Profiles: SPP, DUN, PAN, connectBlue Low Energy Serial Port Service
- Antenna range: 300 m (internal or external)
- Throughput: 1.3 Mbps
- Max number of slaves: 7
- Android support: Yes
- iPhone support: Yes (optional for classic, or via low energy)

Serial Channel:

- Electrical: RS232 or RS485 (RS422 optional).
- Hardware flow control (RS232 – CTS, RTS)
- Baud Rate: 115.2 kbps (Low Energy model)
1.25 Mbps (Classic model)

Digital Outputs:

- Channels: 2
- 100 mA Max
- Polarity: Sinking or Sourcing
Voltage: 5 to 40 VDC.

Digital Inputs:

- Channels: 2 or 4 depending on Bluetooth version
- Polarity: Sinking or Sourcing
- Voltage: 5 to 40 VDC.

Analog Inputs:

- Channels: 4 depending on Bluetooth version
- Voltage: 0–5 VDC (0-10VDC optional)
- Resolution: 10 bit.

Specialized Engineering Services



Diamond Technologies has the flexibility to modify our core products or technologies to meet your specific product or project requirements. Whether you have mechanical constraints, need modifications to communication protocols, or require added or modified I/O capabilities, **Diamond Technologies** can work with your engineering team to accomplish your goals. For nearly 20 years Diamond has provided Specialized Engineering to ensure the final solution achieves our customers' requirements.

We have expertise in electronics hardware design, firmware development, industrial network communication protocols, and PC and mobile application development. Our software group has significant experience in .NET, C/C++/VB, and we have worked with most major industrial wired and wireless networks.