Omron and Bluetooth

Bluetooth wireless technology is a short-range communications system intended to replace the cables connecting portable and/or fixed electronic devices. The key features of Bluetooth wireless technology are robustness, low power, and low cost. Many features of the core specification are optional, allowing product differentiation.

Omron delivers Bluetooth products for wireless programming of the PLC. The Promi SD205-OA is wireless serial adapter line based on Bluetooth technology. Promi-SD205-OA enables RS232-based serial devices to communicate wirelessly throughout the range of 100m ~ 1000m. The Promi-SD205-OA is configured by using easy-to-use Windows-based utility software, by using standard AT command set or using the Promi-SD205's DIP-switch. The user can simply configure Baud Rate and Hardware Flow Control settings of the Promi-SD205. The pairingbutton enables 2 Promi-SD205-OA's to connect automatically.

The Bluetooth RF (physical layer) operates in the unlicensed ISM band at 2.4GHz (the same range of frequencies used by microwaves and Wi-Fi). The system employs a frequency hop transceiver to combat interference and fading

Bluetooth™

realizing

The operating range depends on the device class:

Class 3 radios – have a range of up to 1 meter
Class 2 radios – most commonly found in mobile devices – have a range of 10 meters
Class 1 radios – used primarily in industrial use cases – have a range of 100 meters

Bluetooth technology is an ad hoc technology that requires no fixed infrastructure and is simple to install and set up. You don't need wires to get connected. The process for a new user is easy – you get a Bluetooth branded product, check the profiles available and connect it to another Bluetooth device with the same profiles. The subsequent PIN code process is as easy as when you identify yourself at the ATM machine. When out-and-about, you carry your personal area network (PAN) with you and can even connect to others.

From the start, Bluetooth technology was designed with security needs in mind. Since it is globally available in the open 2.4 GHz ISM band, robustness was built in from the beginning. With adaptive frequency hopping (AFH), the signal "hops" and thus limits interference from other signals. Further, Bluetooth technology has built-in security such as 128bit encryption and PIN code authentication. When Bluetooth products identify themselves, they use the PIN code the first time they connect. Once connected, always securely connected.

OMRON Bluetooth products

Omron delivers the Promi-SD205-OA and various antennas that extend wireless communication range and an USB Bluetooth antenna to provide the PC with Bluetooth

| Promi-SD205-OA | Stub Antenna | Dipole Antenna | Patch Antenna | USB Bluetooth adapter |

Source for WLAN information http://www.bluetooth.com/bluetooth
For more information about the Promi SD205-OA please contact the Omron representative.