



MicroStrain[®]

EmbedSense[™] FAQs

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1. What is the sampling rate of the EmbedSense[™] Node?

The EmbedSense[™] Node samples at 30 Hz/channel in the standard 125 kHz operating frequency. Other sampling rates are available in custom configurations.

2. How far can the EmbedSense[™] Node transmit its data?

The EmbedSense[™] Node can transmit its data to the Interrogation Antenna up to a distance of 50 mm typically. This is referred to as the coil-to-coil separation.

3. How does the EmbedSense[™] capture and display its data?

The EmbedSense[™] Interrogation Antenna receives the Node data and passes it to the Reader Assembly. The Reader Assembly passes the data through its RS-232 port to a host computer. Microsoft Windows software interface displays the data, records the data to file, scales the data into engineering units, and allows the user to configure and actuate the system.

4. Can more than one EmbedSense[™] Node be read by the Interrogation Antenna?

The Interrogation Antenna can read any number of Nodes, each Node having a separate ID. However, each Node must be read individually by the Interrogation Antenna.

5. How long does it take to read the Node data when the Interrogation Antenna swipes by the Node?

Swipe speed is dependent on coil-to-coil separation; reads are faster with a close gap; slower with a wide gap. Nominally, a swipe speed of 8 inches per second is indicated.

6. Into what materials may the EmbedSense[™] Node be embedded?

Generally, the EmbedSense[™] Node may be embedded in anything non-conductive and/or non-metallic. Examples include concrete, human or animal tissue, and plastic.

7. What hyperlinks can I use to get information on the EmbedSense[™]?

Technical Product Overview:

http://www.microstrain.com/pdf/EmbedSense_Rev1_datasheet.pdf

Quick Start Guide:

<http://www.microstrain.com/pdf/EmbedSense%20Quick%20Start.pdf>

User Manual:

<http://www.microstrain.com/pdf/EmbedSense%20User%20Manual.pdf>

8. How is the EmbedSense™ starter kit packaged?

When you initially purchase an EmbedSense™, a starter kit (SK) provides you with everything you need to get started! SKs typically include two Nodes, an Interrogation Antenna, a Reader Assembly, power supply, BNC cable, RS-232 cable, software and manuals. In subsequent purchases you may only require additional Nodes or other individual components.

9. What software do you provide for EmbedSense™?

We provide a general application for MS-Windows XP Pro SP2 operating systems that reads, displays, saves data and configures the devices.

10. May I write my own software application for the EmbedSense™?

Yes. We can provide a complete data communications protocol manual which describes in detail each and every command and response that is available with the Reader Assembly. Applications may be developed in any programming environment (C, VB, LabVIEW, Matlab, etc.) which supports communication via serial port.

11. What communication interfaces are available with the EmbedSense™?

The Reader Assembly has a standard RS-232 interface to a host computer.

12. What are the dimensions and weight of the EmbedSense™ components?

Device	Weight	Diameter	Width	Height
Node	16g	36mm	-	7mm
Interrogation Antenna	8oz	115mm	-	39mm
Device	Weight	Length	Width	Height
Reader Assembly	24oz	196mm	168mm	66mm

13. Is it possible to use the RS-232 interface with a serial port emulator (i.e., with a USB to serial adapter)?

Yes. We have had good success with several types of off-the-shelf USB to serial port adaptors, such as those from IOGear and Keyspan, which may be purchased through consumer products distributors such as Best Buy or Circuit City.

14. Is the data output of the EmbedSense™ time-stamped?

Time-stamping is accomplished by the PC software using the host clock.