

We offer both wired and wireless sensors and are often asked which is better. There is no “one size fits all” answer. The paragraphs below and the information on the next few pages of this guide will give you a good idea of the tradeoffs when selecting a sensor interface technology.

Component Cost

Invariably, the wired sensor component cost is much less than for our wireless devices. This is primarily due to the fact that our wireless devices have high power output to allow them to communicate reliably in a large warehouse. They also use components with significantly greater processing capability than our competitors to enable Frequency Hopping Spread Spectrum capability and encryption for data security.

Installation Cost

Even though our wired solution is incredibly easy to install, the physical installation of the wireless sensors requires significantly less effort (maybe up to 75% less). Of course, the installation is only part of the task of getting a system up and running. Aside from correcting a few connection problems, wired sensors are ready to run immediately after they are installed. Wireless sensors, on the other hand, may require a sizable effort in simply trying to find a clear communications path between the sensor and the gateway. Moving repeaters around takes time, and since they need to always be on, they must be line powered. Occasionally, it takes almost as much time to install and commission a wireless system as it does to do a wired one.

Flexibility

If you often rearrange your warehouse, storage facility, or museum, the use of wireless sensors is, without question, the best way to go.

Reliability

Even though the components for both wired and wireless solutions are equally reliable, a wired solution isn't susceptible to interference or other phenomena which could affect the ability of the sensors to successfully communicate the measurements to the server.

Accuracy

Wired or wireless sensors utilize the same sensor technology and are equally accurate and meet or exceed regulatory requirements.

Comparison

The table below contains a comparison of both approaches. Keep in mind that there are a lot of variables involved and a wired solution for one application will not be suitable for another.

| | Wired | Wireless |
|--|-------|----------|
| Lowest Component Cost | X | |
| Easiest to Install | | X |
| Lowest Susceptibility to Interference | X | |
| Most Secure | X | |
| Easiest to Modify (move sensors) | | |
| Lowest Cost to Calibrate | X | X |
| Highest Accuracy | X | X |
| Highest Overall Reliability | X | X |
| Lowest Cost to Maintain | X | |