

# The OMNI Transmitter

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## INSTRUMENTATION ENGINEERS AND CONTRACTORS

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### CLEANROOM RENOVATIONS AND MAINTENANCE

Cleanroom renovations, upgrades, maintenance, and repairs require the service of knowledgeable, experienced contractors like Omni who understand cleanroom function and the criticality of maintaining a contaminant-free environment.

A cleanroom is a specially-designed controlled environment in which various systems, materials, and operating procedures are used to minimize the introduction of pollutants like dust, microbes, aerosol particles, and chemical vapors and to control temperature, pressure and humidity. Cleanrooms are commonly used in industries such as pharmaceuticals, biotech, electronics, and other critical testing and manufacturing, and can vary in size, complexity, and cleanliness standards. Humans contribute most of the contaminants present in any given cleanroom, which is why it is so crucial for contractors working in these areas to follow cleanroom protocols to the letter.

Omni participated recently in a small ISO Class 6 and 7 cleanroom renovation and scheduled maintenance shutdown. The team's first priority was to coordinate with cleanroom personnel to ensure strict adherence to the facility's cleanroom standard operating procedures (SOPs), beginning with gowning protocols and cleaning of tools and materials to be introduced into the environment. Electrical maintenance tasks included replacing outlets and outlet covers and re-lamping, cleaning, and providing new lenses on lighting fixtures. Instruments were recalibrated for temperature, pressure and humidity. Omni worked closely with other specialty trades and process vendors, as well, in order to successfully complete the work within the allotted five-day period, and commissioning and qualification proceeded on day six as planned.



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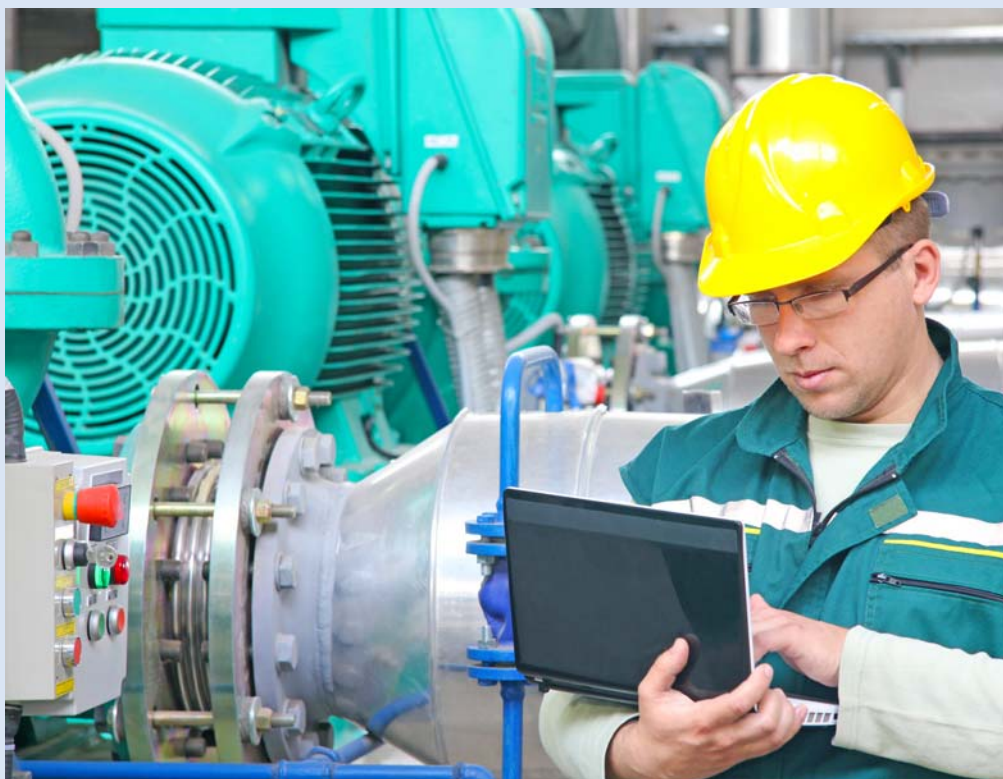
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## OMNI TECH TALK: Why Doesn't My New System Do More?

In an all-too-common scenario, a project has reached the startup and commissioning phase, and facility personnel are eager to see the capabilities of their brand new system in action. With all the incredible technological advances they know are out there, they're expecting powerful, centralized, all-encompassing, easy-to-use controls. But what many users actually find is disappointing. They ask, "Why doesn't my new system give me better functionality?" and "why is it so difficult and time-consuming to make programming changes?" and "why aren't all these controllers interconnected?" Why, indeed?

New construction and renovation projects, like most things in life, are subject to budget constraints, and it's often left up to financial decision-makers to select the best options they can get within their budget. But what does the average purchasing agent know about complex building systems and equipment? Without express input from facility personnel in the know, no one should be surprised when the end product is less than what was expected.

So what can be done to prevent this from happening? Do your best to get involved early on in the decision-making process. Even if you're busy, make the time! Spending an hour or two choosing options now might spare you the frustration of having to deal with avoidable problems for the next fifteen years. If the budget won't accommodate



all of your preferred options, choose a system you can add on to in the future.



**Tech Tidbit: Single-Mode vs. Multimode Fiber Optic Cable** Choosing between single-mode and multimode fiber optic cable depends on the application, travel distance, and budget. Single mode fiber has a small core that only allows one mode of light to propagate, allowing a higher bandwidth, faster transmission, and up to fifty times greater traveling distance with minimal to no distortion. Multimode fiber optic cable's larger core allows multiple paths of light to pass at shorter distances, as some distortion can occur over long distances. Single-mode cable and transmitters are more expensive than multimode.

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### FROM THE PANEL SHOP: MOP for Electrical / Control Panel Relocation

Relocating an electrical panel or control panel is a commonplace procedure that happens more than one might think. Renovations, new equipment installations, system upgrades, major repairs and move-in of new

building occupants are all events that often necessitate moving control panels from one place to another. The actual physical relocation, in and of itself, is not difficult, but preparation and planning of the process where mission critical systems are involved must be meticulously detailed to prevent down time and interruption of service. This is why Omni utilizes the Method of Procedure, or MOP, on such projects.

An MOP is a peer-reviewed document that coordinates, outlines, and organizes each project task down to the smallest detail. All MOPs are submitted and reviewed with the client and project team for mutual approval before a project can proceed. An MOP dictates the precise sequence of what has to happen, when, by whom, and at what time, ensuring smooth project execution with minimal-to-no problems or delays.

All MOPs include a precisely-detailed sequence of tasks, any risks involved, all necessary safety precautions and procedures, required materials, and special tools or equipment, then aligns all of these elements to the project schedule. Names and contact information for all personnel involved on the project are included in the MOP, as well as any enabling work that must be completed to prepare for shut-down. Projects proceed following the MOP document from start to finish, culminating in verification that all work has been completed and the panel is ready for start-up and commissioning.



### Drones Taking Off in Utility Inspection

The electric power industry has a new tool that is revolutionizing inspection of transmission and distribution lines, towers, and poles: drones, also known as unmanned aerial systems (UAS).

Utility companies are increasingly turning to drones to inspect lines and equipment for maintenance issues such as loose connections, deterioration, broken components, and missing bolts, and drones equipped with thermal imaging equipment can be used to identify hotspots. They are also used to assess for damage following a storm or other natural disaster. Because such inspections are traditionally performed by or utility workers climbing towers or in buckets and helicopter patrols, aerial inspection using drones significantly cuts costs and improves worker safety. Current FAA regulations pilots to keep drones within visual line of sight during daylight hours, but UAS contractors and utility companies are hopeful that these restrictions will be loosened in the near future so operators don't need to continually relocate during the inspection process.