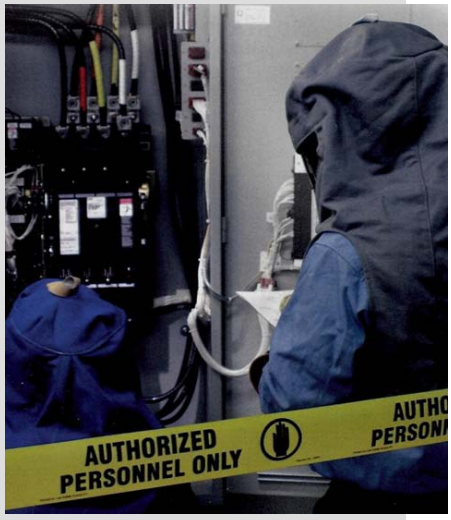
The OMNI Transmitter

APRIL 2013 NEWSLETTER

- INSTRUMENTATION
- ELECTRICAL SERVICES
- CONTROLS

INSTRUMENTATION ENGINEERS AND CONTRACTORS

Inside This Issue:



A Single-Source Electrical Stop By Mike Kornas

Did you know that Omni has returned to its roots, and we now offer a full range of electrical work, instrumentation, and controls services?

Since Omni Instrumentation Services, Inc. started out in 1986, we have been providing premier instrumentation and controls services throughout the eastern U.S. Though our main focus over the years has been instrumentation and controls, we have always quietly continued to offer electrical work upon client request. But after 27 years in business, the needs of our clients have evolved, and Omni has now **expanded our services to include a full range of electrical, power distribution, lighting, and low voltage work in addition to instrumentation and controls.** This one-stop-shopping approach allows clients to depend on a single contractor, rather than several, to coordinate and perform interrelated services. Our unique ability to provide both electrical and instrumentation and controls offers a clear advantage over the large majority of other contractors who don't offer both types of service.

Omni is led by a team of electrical and instrumentation engineers, and we hold electrical licenses in multiple states throughout the east. We have built an outstanding reputation among clients as a world-class contractor, and we are looking forward to satisfying a greater range of needs with our expanded services. Call us with any questions or for a free estimate.

Omni's Menu of Services Includes:

- Instrument installation, calibration and loop check
- Electrical, power distribution, lighting, and low voltage work
- Control wiring installation
- Startup and commissioning support
- UL-certified panel construction
- Install drawing review
- Budget estimates

OMNI INSTRUMENTATION SERVICES, INC.

Omni
112A Sylvania Place
South Plainfield, NJ 07080
PH - 908.412.7130
FX - 908.412.7131
www.omniinst.com

The OMNI Transmitter

APRIL 2013 NEWSLETTER

- INSTRUMENTATION
- ELECTRICAL SERVICES
- CONTROLS

INSTRUMENTATION ENGINEERS AND CONTRACTORS

OMNI TECH TALK: Electrical Sags and Undervoltage

There a number of power quality issues that can cause problems in a building or facility. These include voltage sags, undervoltage, overvoltage, surges, interruptions, and several others. Voltage sags and undervoltage are the most common, accounting for about 92% of commercial and industrial power quality problems.

A voltage sag or dip is a brief reduction in voltage (below 90% of its nominal value) that lasts between 0.5 cycle to one minute. Undervoltage is when a power sag exceeds one minute. While undervoltage is usually a chronic problem due to conditions beyond the user's control (weather, high demand, or distribution system design) sags can be caused by both internal and external factors. Sags that originate in a user's facility typically occur due to a sudden increase in loads, such as when motors or magnets are started, short circuits or faults, or when there is an abrupt increase in source impedance, often due to a loose connection. If chronic undervoltage is an issue, even small sags can exacerbate the problem.

For critical light loads, a local or central UPS should be installed to guard against power quality issues and provide clean, constant power when needed. For larger loads such as motors, HVAC, and heaters, sags and undervoltage can be more challenging. Inexpensive monitoring equipment can be used to determine how, when and where issues are occurring, and identify whether the issue is internal or external. Some equipment, such as VFDs, can be programmed with catch-on-the-fly and auto restart. If it is determined that your power issues are external, contact your utility company.

TECH TIDBIT:
Time Capsule - 1913's Greatest Inventions of the Era

In 1913, Scientific American magazine challenged its readers to write an essay on the greatest inventions of their time. The winning entrant's top 10: the electric furnace, steam turbine, gasoline automobile, moving pictures, wireless telegraphy, aeroplane, cyanide process, linotype machine, induction motor, and electric welding. Only two inventions, the wireless telegraph and the aeroplane, appeared unanimously on every entrant's list.

The OMNI Safety Corner

Safety is our #1 priority. As part of our continual commitment to training, compliance, and improvement, we updated our safety manual for Spring 2013.

Omni has participated in numerous OSHA VPP projects, and we are ISNetworld approved.

Omni : 112A Sylvania Place South Plainfield, NJ 07080 : PH - 908.412.7130 : FX - 908.412.7131 : www.omniinst.com

The OMNI Transmitter

APRIL 2013 NEWSLETTER

- INSTRUMENTATION
- ELECTRICAL SERVICES
- CONTROLS

INSTRUMENTATION ENGINEERS AND CONTRACTORS

FROM THE PANEL SHOP: HMI Environments By Craig Drabyk

A human-machine interface, or HMI, is a graphic interface that provides remote access to industrial control and monitoring systems. These and other related devices go by various other names and acronyms – operator interface (OI), operator interface terminal (OIT), human computer interface (HCI), man-machine interface (MMI), and operator interface console (OIC) – but all are fundamentally the same. HMIs come in a variety of sizes, memory options, and configurations.

An HMI is one of the most important features of a process control system. Using a touch screen, keypad, or combination of the two, users have the ability to see the equipment graphics and interface with the switches, buttons and gauges found on the equipment itself.

Because HMIs are commonly used in industrial settings and harsh environmental conditions, they are ruggedized to endure rough treatment of varying degrees. Most HMIs feature scratch-resistant screens and protected keypads, and there are a variety of options designed to withstand different levels of vibration, heat, cold, moisture, chemicals, dust, etc. HMIs rated for the most extreme environments, such as refineries, chemicals, and mining, can operate in temperatures as low as -20F and as high as 160F and are able to endure snow, ice, wind, and rain. Most HMIs are panel-mounted, but many manufacturers offer hand held versions.

Contact Omni at 908-412-7130 for assistance in selecting an HMI for your environment, or if you need a repair.

Cash Back for Recycled Valves and Instruments

Emerson Process Management is offering a cash-back valve and instrument recycling program through their network of local business partners. The new recycling program provides greater residual value for used or inoperable control equipment. Emerson provides free pick up and shipment from plant sites to their recycling center, rapid evaluation of valve and instrument cores, and prompt payment with an itemized transaction report. The recycling program provides greater ROI than traditional scrapping practices and helps prevent unnecessary waste of potentially useful materials. In addition to Fisher control valves and Rosemount instruments, Emerson is also accepting non-Fisher valves to keep recycling efforts simple.