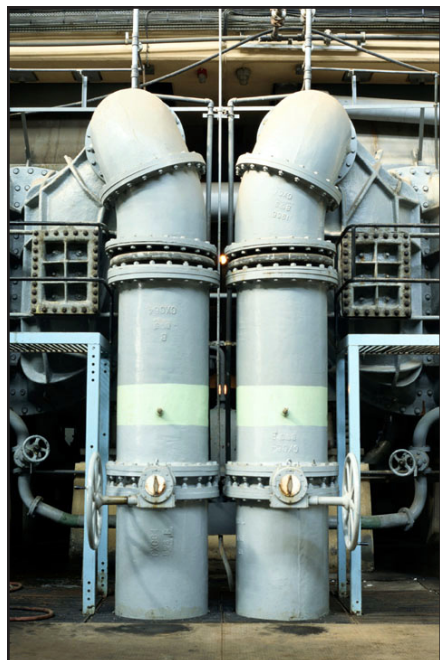


Miniature Precision Data Acquisition Pressure Sensing Instrumentation Design Note #36



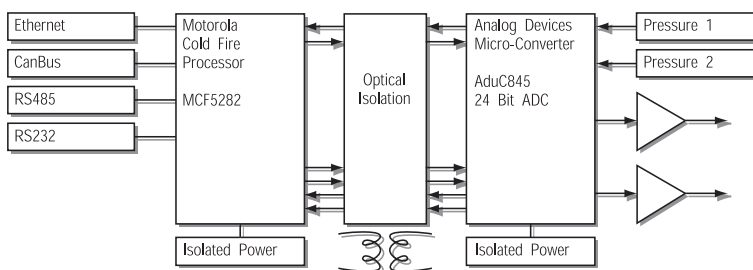
Miniature pressure sensing instrumentation is critical to the proper control of these two ultra-high volume hydraulic actuators.

Miniature Precision Data Acquisition

MKS Instruments Corporation hired Orchid Technologies to assist in the design of their newest precision pressure sensing instrumentation product. Beginning with demanding packaging requirements, the challenge continued with requirements dictating a dual processor architecture, isolated power supply system, 24 bit analog/digital data conversion, and Network Communications—Ethernet, CAN Bus, and RS232. Twenty five pounds of performance stuffed into a five pound container!

Making It Work

Orchid Technologies, working incrementally with our client, achieved a two board set—a breakthrough in packaging and performance. An outstanding, miniature power supply design was the start. Then circuit board isolation barriers, precision analog circuitry and finally Motorola's Cold Fire and Analog Devices' MicroConverter made this miniature multiprocessor solution a success.



Attention to Detail Achieves Success

Careful circuit board layout techniques makes this miniature sensing instrument possible. Orchid Technologies made the extra effort to avoid blind or buried vias in this compact miniature design. Working as our client's advocate, Orchid achieved significant circuit board production fabrication savings.

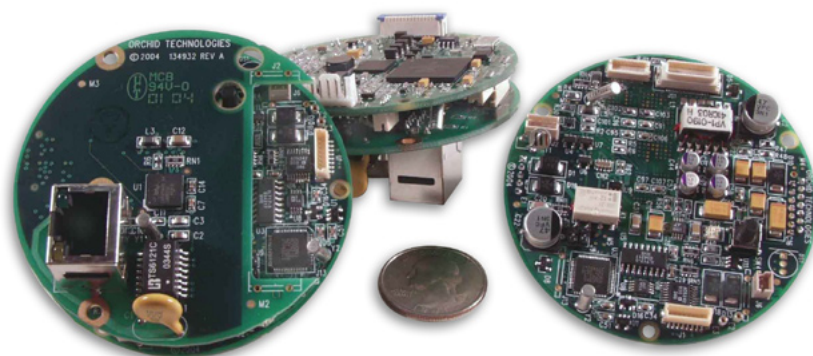
Orchid Technologies Delivers

The development of custom Electronics Technology solutions for our OEM clients is Orchid's entire business. Industrial Controller Design with rapid design cycles, demanding technical requirements, and unforgiving schedules sets us apart. Call Orchid Technologies today, we'll design precision miniature electronics instrumentation for you too!



"Orchid's insight into the nuances of our circuit design and layout were invaluable."

Assistant VP Development



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Custom Engineering From Concept to Production

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