

The Power of Integrated Thinking

Combine flex circuits, heaters and sensors to elevate system performance and challenge the status quo

Unlock E2E Collaboration

During Minco's six decades of operation, we have come to master a diverse, but related, set of competencies — spanning from sensors and transmitters, to heaters and flexible circuitry. We've also learned that identifying the right solution to overcome design challenges often requires advanced expertise that leverages all of these disciplines.

Through engineer-to-engineer (E2E) collaboration, we partner with customers to uncover new ways to improve the performance of critical systems. By applying expertise in thermal modeling, substrate composition and material stability, we're able to work alongside in-house design teams to create integrated solutions that are smaller, lighter and less costly. But more importantly, we're able to overcome the challenges presented by absolutely-cannot-fail applications.

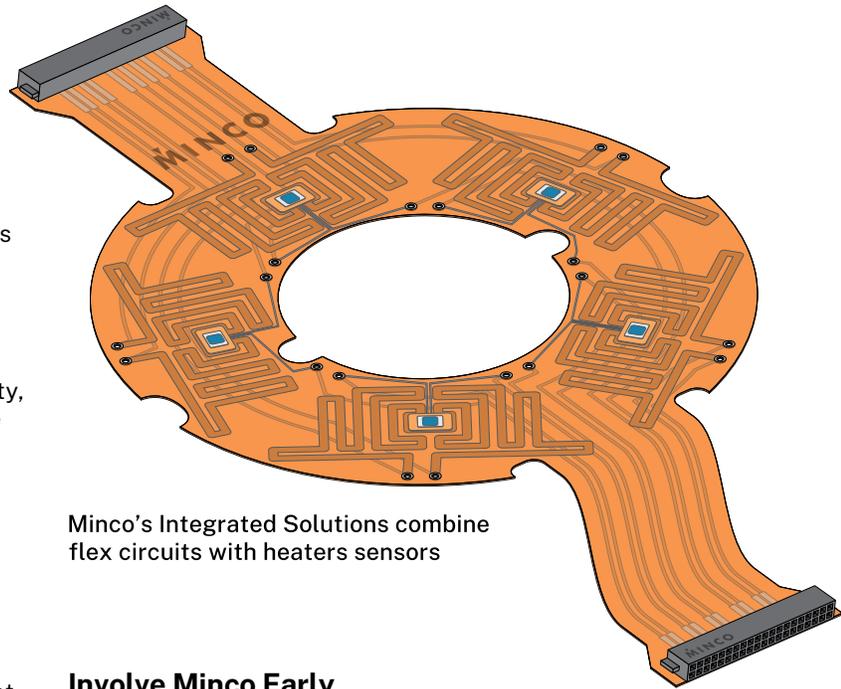
Start Simple

In many cases, customers begin by asking Minco to design a single heater or sensor assembly. Through collaboration, we've discovered that we can integrate a heater or sensor with flex circuitry to create solutions that are more resilient and more effective. For instance, an environment may need to remain thermally stable, so Minco flex engineers collaborate with Minco thermal solution engineers to design a product that exceeds our customers' initial requirements.

When Minco engineers familiarize themselves with a project, they can make cost-saving suggestions. One example might be the wires or flex leads connecting the heater to other components in the enclosure. Old-fashioned wiring bundles pose installation difficulties due to their bulk and the possibility of mis-wiring the rig. By combining the various wires into a flat package and adding connector plugs, these challenges are eliminated — it's impossible to connect the plugs the wrong way.

No matter how seemingly impossible an integration problem may be, our unsurpassed capabilities allow us to integrate any combination of our high-quality flex circuits, heaters, sensors and control electronics to solve it.

From an assembly standpoint, Minco's integrated solutions make it easy to uncover additional efficiencies. Minco's integrated components simplify the supply chain, enabling our customers to get to market faster and reducing their direct costs.



Minco's Integrated Solutions combine flex circuits with heaters sensors

Involve Minco Early

The most impactful performance improvements, space reductions, cost savings and new capabilities are typically discovered early in the design process. Engaging flex circuit, heater and sensing experts from the beginning keeps the focus on integration and provides runway for new ideas.

Case in point: A medical device manufacturer wanted Minco to create a thermal stabilization package for a rotating carousel of biomedical vials. The prototype consisted of a heater and tab sensor for each vial, and an assembly that involved dozens of wires. Minco's engineering team responded by suggesting a solution with surface mount temperature sensors embedded in the same piece of polyimide as the heaters themselves, with a high-density connector serving as a foolproof interface between the circuit and the main project electronics. This simple innovation saved the customer money on manufacturing and simplified and streamlined installation, resulting in further savings — and by making these adjustments in the prototyping phase, our customer was able to achieve valuable new design efficiencies.

If you're addressing a new challenge that can't be solved with existing circuits, heaters and sensors, contact Minco to see how our diverse capabilities can be put to work for you.

Want to Change the Status Quo?

Contact us today to begin developing innovative solutions to your design challenges



In today's competitive markets, manufacturers are always looking for ways to cut costs, reduce time to market, and improve product performance. This is particularly true of technical products in high-regulation fields like medical diagnostics, aerospace, power generation and military and defense where failure is simply not an option. Designers who work with these products, and others like them, recognize it

takes a zeal to challenge the status quo in order to discover new innovations that can speed time to market and help maximize profitability.

If you and your engineering team are ready to take that next step and start solving problems on the next level, Minco engineers are ready to collaborate on your next game-changing system.

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