



SIEMENS

Ingenuity for life

Components from Siemens, the easiest weigh

More efficient plant operation with the SIWAREX WT231 weighing module

A machine and fabrication shop in Eastern Ontario, Canada provides tooling, industrial equipment, and production arts to a diverse clientele in the electronics, automotive, plastics, and mining sectors. In-house capabilities include machining, fabricating, tool and die, stamping, product assembly, wet painting, and electrostatic powder coating.

Challenge

With a diverse service offering, the company also provides components and assemblies,

which must meet specific weight requirements. To ensure they provide a quality end product, the machine builders required a high-resolution scale to weigh long, slender, heavy weights and chains.

A standard platform scale would not meet the needs of this particular project because the scale would simply be too small for the long weights and chains.

Imagine trying to weigh a long piece of pipe on your bathroom scale, with either end of the pipe hanging over the edge of the scale as it tilts back and forth.

Not very easy to weigh, right? This company knew they needed a different kind of scale for this project.

Solution

The machine builder turned to Siemens for the components they needed to build a custom-designed scale for use in weighing assemblies up to 2000 pounds. The scale used Siemens special triple beam parallelogram stainless steel load cells and a SIWAREX WT231 weighing module along with a SIMATIC touch panel.

The SIWAREX WT231 is a stand-alone weighing terminal for display and output of the weight measurement. It can be used independent of the automation solution, making usage fast and uncomplicated. The RS485 Modbus RTU interface enables a



Accessing the scale parameters is quick and easy with the large touch panel.



The stainless steel triple-beam load cells from Siemens are ideal for the custom platform scale constructed by the end user.

direct integration of the terminal in all conventional controller environments.

The SIWAERX WT231 is configured using the SIMATIC touch panel on the front of the stainless steel enclosure. All settings and parameters for the weighing application can be defined via the touch panel. The intuitive operation enables the user to perform fast parameter assignment and commissioning, so no specialist is required to setup the weighing application. The SIWAREX WP231 weighing terminal offers comprehensive diagnostic functions such as checking weight progression or monitoring and reporting of limit values.

The weighing terminal features a resolution of two million parts with the Siemens load cells providing the high accuracy needed for the components this company produces. The weighing terminal also features four digital outputs to alarm on pro-

grammed limits for over or under weight conditions.

A recover function ensures that any programming changes can be reverted back to a set list of confirmed parameters and visual indicators (lights) inside the SIWAREX WT231 as well as alerts on the HMI allow quick and easy troubleshooting.

The stainless steel triple beam load cells are the same type that are used in the field-proven Siemens MSI belt scale and have a built-in overload protection – linear up to 150% of their rated capacity.

Operators preferred this design over other standard type load cells like bending or shear beams due to the configuration of mounting on the front of the cell instead of the top. The cells can be loaded up to 300% of their rated capacity before permanent deformation and are produced to an extremely high standard with a signal output specification of 2.000 to 2.002 mV/V.

Benefits

A machine shop is a very dusty and dirty environment, but the Siemens load cells are IP67 rated to ensure that cleaning and the harsh conditions in the shop also do not impact the load cells' performance. The load cells also feature an outer cover to protect the inner components from larger debris.

As well, since visual indicators on the SIWAREX WT231 weighing terminal will show if an issue occurs in the weighing process, operators can tend to it immediately.

Combined, these components from Siemens are a powerful solution for a custom-made scale for this company.

Siemens Industry, Inc.
Process Industries and Drives
100 Technology Drive
Alpharetta, GA 30005
1-800-365-8766

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