Technical Overview – CS Series Monitoring System

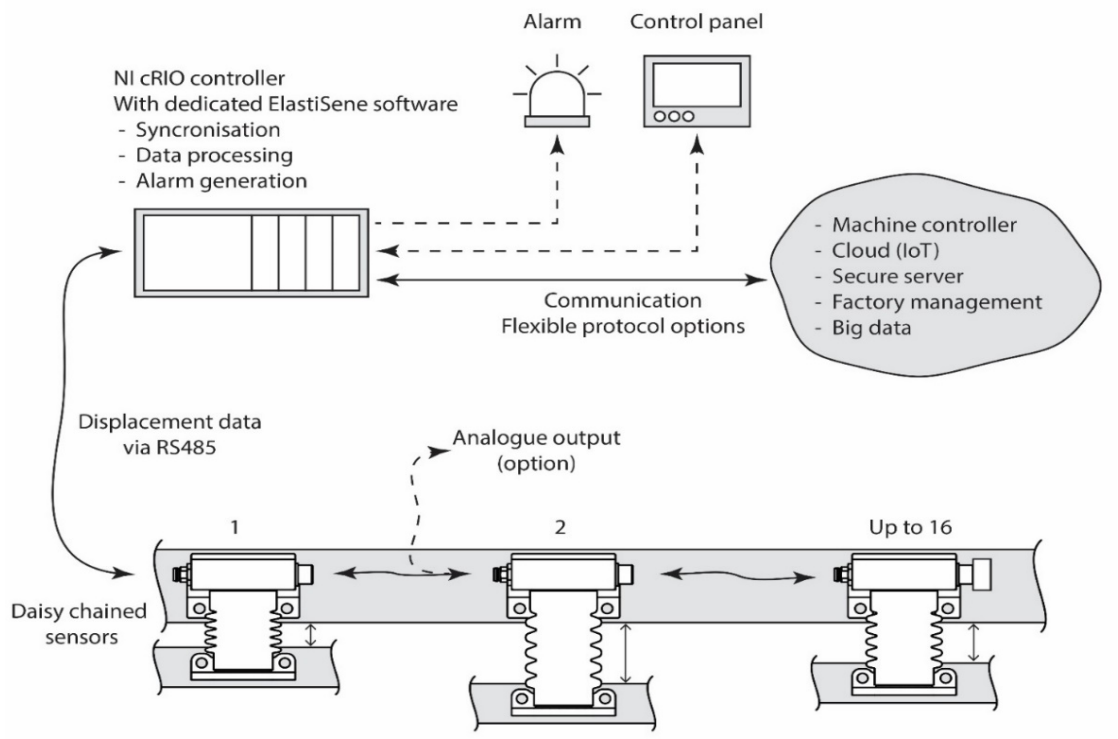
The CS series is a turnkey solution enabling multi-sensor monitoring of a process, machines, or structure and provide customizable outputs.

The solution includes proprietary elastomeric displacement sensors, a controller unit, and dedicated software enabling:

- Inline quality control
- Predictive maintenance
- Damage prevention”
- Performance optimization

Working principle

The specially designed displacement sensors are mounted between inter-movable parts of a machine or structure. As these parts moves in relation to each other, it causes the installed sensors to stretch. This stretch is converted to electrical signal representing displacement in nanometres. The displacement data is then transferred to the controller unit for postprocessing and transmission of real-time data to the user. The software enables you to define criteria of a normal operation. In the event of any violation of the predefined criteria, measured by the sensors, the system will provide alerts to the user or another control unit for taking necessary measures. Different alerts types such as electrical signal, visual alerts on a screen, acoustic alerts, etc. are possible.
The system can also be configured to transfer real-time data to local or remote receivers.



Technical specifications – hardware

Parameter	Value
Supported number of sensors	1 – 16 sensors
Measurement range	20mm – 100mm (according to the applied sensor variants available in 20, 50, and 100mm ranges)
Absolute accuracy	Down to 20µm (0.1% full scale of the applied sensor)
Measurement resolution	<1µm
Maximum speed	Up to 450 mm/second
Sampling rate	Up to 10 000 samples/sensor/second
Operating temperature	-20 to 80 °C
Operating humidity	5%RH to 80%RH
Ingress protection	IP63 (higher available upon request)
Lifetime (sensors fatigue life)	10 million at full stretch (30 million at 50% stretch)
Power supply	24VDC
Power consumption	<100mA per sensor