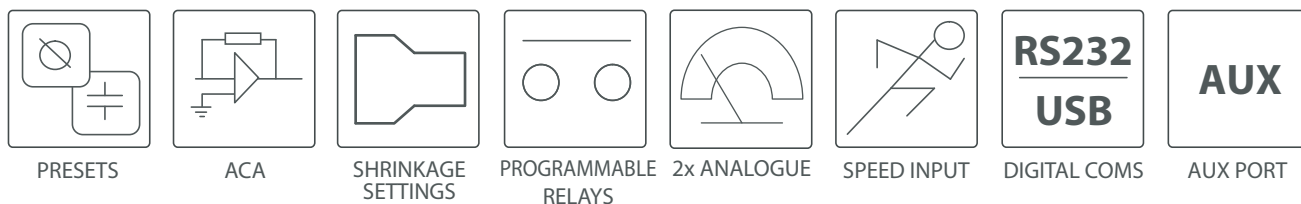




The NEXiS™ CS2G is a powerful and economical production line control system for use with Proton DG Series diameter gauges or Proton CG Series capacitance gauges. The NEXiS™ CS2G monitors product dimensions or capacitance, and outputs control data to production equipment, ensuring preset limits are not exceeded. In conjunction with Proton's DG Series of laser diameter gauges, or the CG Series of capacitance gauges, the system is ideal for cable insulation, jacketing, tubing and many other applications. The bright 2-row LED display and membrane control panel make menu-based set-up simple. With four relay outputs, 2 analogue outputs, and USB, RS232 and CANbus connectivity, the CS2G control system is simple to install into your production system, and is compatible with other manufacturers' measurement gauges. Standard features include independent tolerance settings, shrinkage setting, alarm functions, and line speed input.



FEATURES



TECHNOLOGY

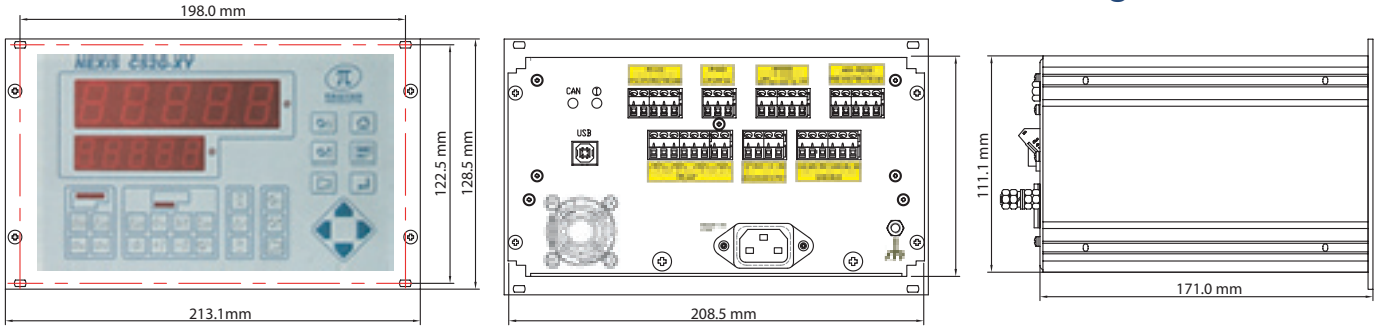
Advanced Control Algorithm

- Product Preset = P
- Estimated Core = C
- Actual Diameter = A
- Diameter Error $\varnothing \text{ error} = \frac{A^2 - C^2}{P^2 - C^2} - 1$
- Control Output is the amount of trim applied to the motor drive $C_o = I_g \int_0^t \varnothing \text{ error } dt$

BENEFITS

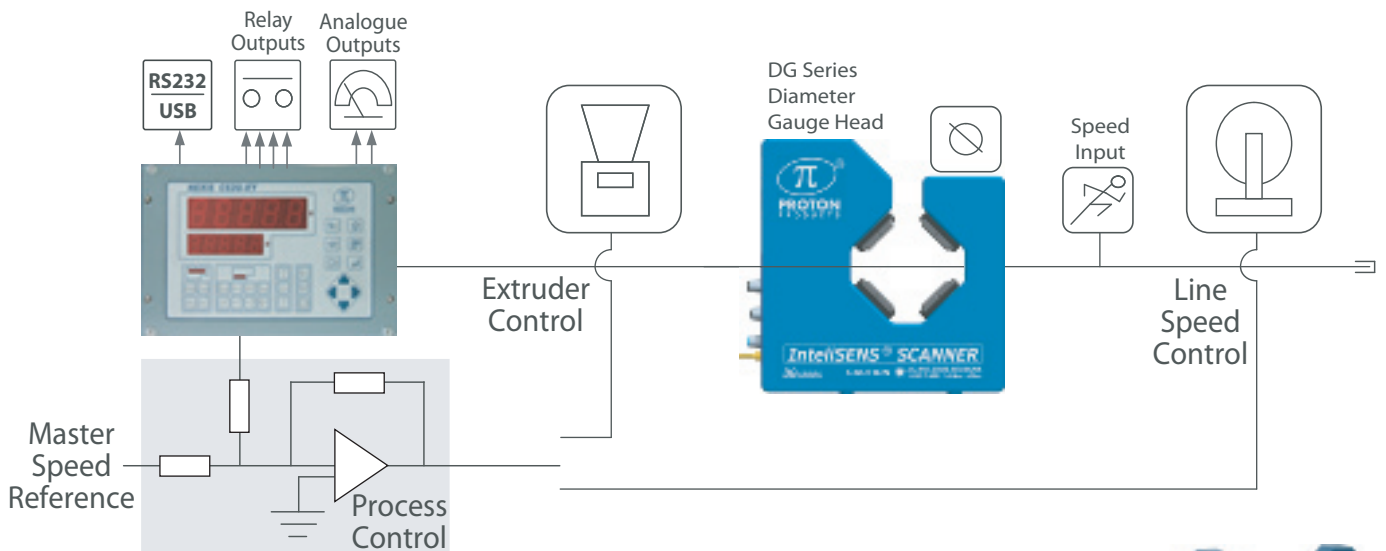
- Economical, User Friendly, Powerful Display and Control System
- Maintain Product Dimensions within Preset Specification Limits
- Alarm Functions Indicate Product Exceeding Specification
- 4 x Relay Outputs – Selectable from Multiple Parameters
- 2 x Analogue Outputs - Selectable from Multiple Parameters
- Shrinkage Compensation – Selectable from Absolute or Percentage
- Digital communications

NEXiTM CS2G, NEXiTM CS2GXY : connected to DG Diameter Gauge via CANbus

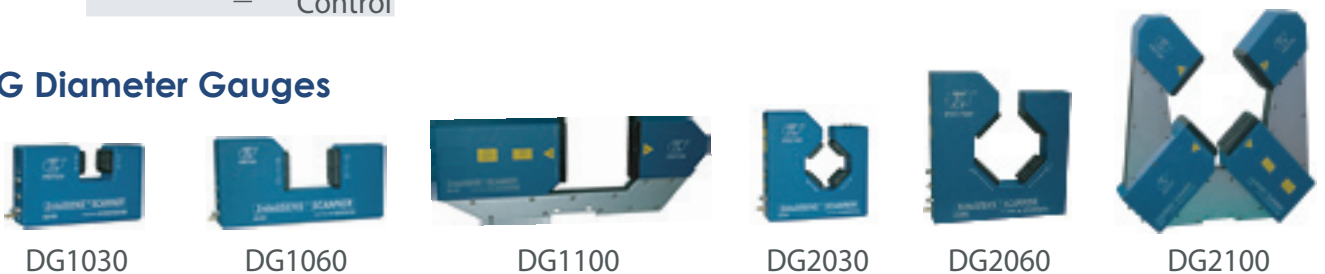


Model	NEXi TM CS2GXY for dual plane DG gauges (NEXi TM CS2G for single-plane DG gauges)
Screen	2 Rows - 7 Segment, 5 Digit; Upper Row 20.32 mm (0.8 inch) Lower Row 12.7 mm (0.5 inch)
Weight	2.5 kg (5.5 lbs)
Power Supply	85 - 264 VAC rms, 47 - 440 Hz, 1 A max (rms) @ 115 VAC, 35W max.
Operating Temperature	0 - 45 °C (0 - 118 °F)
Degree of Protection	IP50
Relative Humidity	90% 38°C (105 °F)
Serial I/O	RS232 / USB, CANbus
Speed Input	Analogue Input or Pulse Input. Speed Input required for control output or if DG gauge in HELIX mode. Analogue Speed Input: 0 - 50 Vdc; selectable; User-programmable to required diameter range. Pulse Speed Input: 0 - 30 Vdc; selectable. Max. frequency 250 kHz.
PID Control Output	1 x Solid State Control Output: ± 10V , 10 mA. Output resistance <10 Ω. Resolution: 12 bits.
Relay Contacts	4 x Volt Free Max Rating 50 Vdc, 30 VAC; Current rating 500 mA; ON resistance <0.1 Ω at 100 mA; OFF resistance >10 Mega-Ohms
Programmable Relays	Each relay programmable to one of 8 options: XY upper tolerance exceeded, XY lower tolerance exceeded, Gauge OK, SSFD, X upper tolerance exceeded, X lower tolerance exceeded, Y upper tolerance exceeded, Y lower tolerance exceeded.
Analogue Output 1	16 Bit 10 Vdc 2mA - Selectable ØX or ØXY; User-programmable to required diameter range
Analogue Output 2	16 Bit 10 Vdc 2mA - ØY or ±10 Vdc Average Error; User-programmable to required diameter range
ACA Control	Advanced Control Algorithm

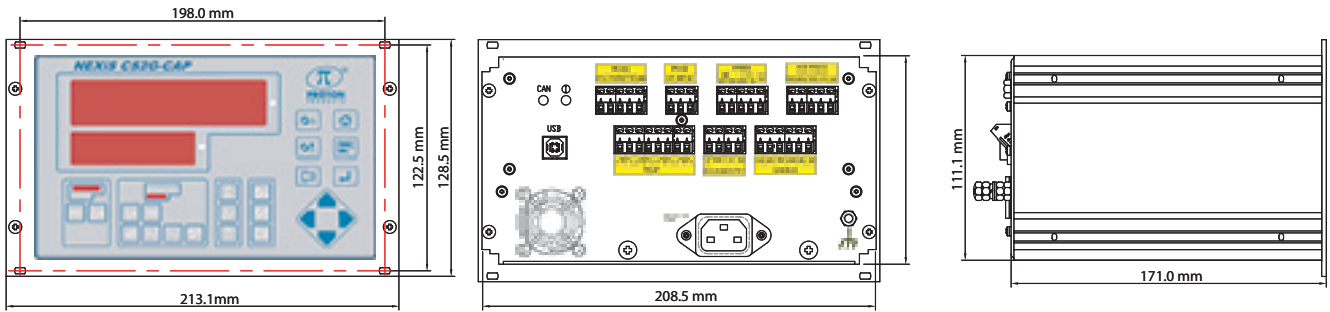
Control System Configuration



DG Diameter Gauges

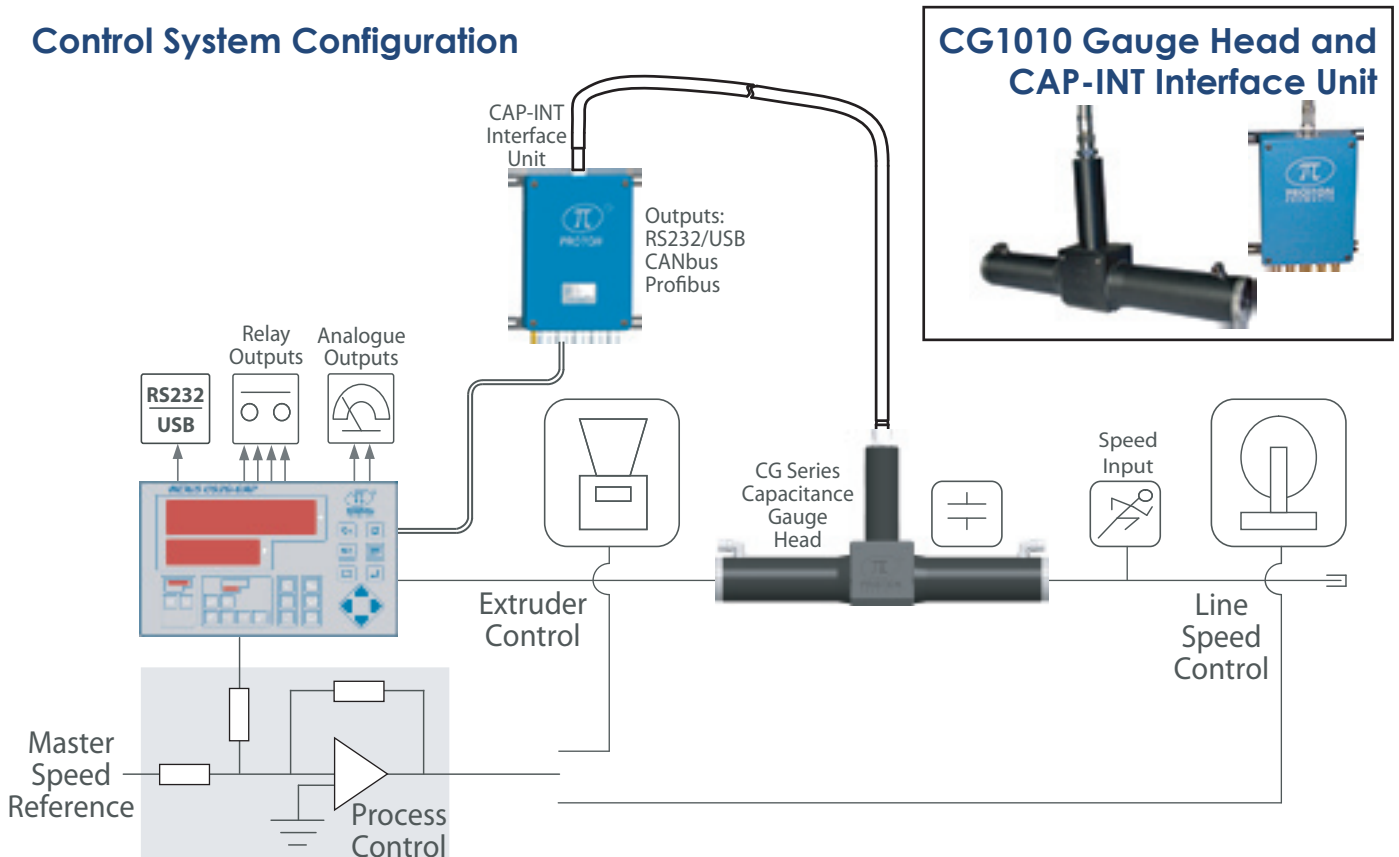


NEXIS™ CS2G-CAP : connected to CG Series Capacitance Gauge via CANbus



Model	NEXIS™ CS2G-CAP for CG Series Capacitance Gauges
Screen	2 Rows - 7 Segment, 5 Digit; Upper Row 20.32 mm (0.8 inch) Lower Row 12.7 mm (0.5 inch)
Display Resolution	0.1 pF/m
Weight	2.5 kg (5.5 lbs)
Power Supply	85 - 264 VAC rms, 47 - 440 Hz, 1 A max (rms) @ 115 VAC, 35W max.
Operating Temperature	0 – 45 °C (0 – 118 °F)
Degree of Protection	IP50
Relative Humidity	90% 38°C (105 °F)
Serial I/O	RS232 / USB, CANbus
Speed Input	Analogue Input or Pulse Input. Required for using control output. Analogue Speed Input: 0 – 50 Vdc; selectable; User-programmable to required capacitance range. Pulse Speed Input: 0 – 30 Vdc; selectable. Max. frequency 250 kHz.
Presets	Required Capacitance, Capacitance Error, Upper Tolerance, Lower Tolerance, Control Output %
PID Control Output	1 x Solid State Control Output: ± 10V , 10 mA. Output resistance <10 Ω. Resolution: 12 bits.
Relay Contacts	3 x Volt Free Max Rating 50 Vdc, 30 VAC; Current rating 500 mA; ON resistance <0.1 Ω at 100 mA; OFF resistance >10 Mega-Ohms
Programmable Relays	Each relay programmable to one of 3 options: Capacitance Gauge OK, Upper tolerance exceeded, Lower tolerance exceeded
Analogue Output 1	16 Bit 10 Vdc 2mA - Actual Capacitance; User-programmable to required capacitance range
Analogue Output 2	16 Bit 10 Vdc 2mA - ±10 Vdc Capacitance Deviation; User-programmable to required range
ACA Control	Advanced Control Algorithm

Control System Configuration



NEXiS™ CS2G : control system configurations

Diameter Control using Cold Diameter



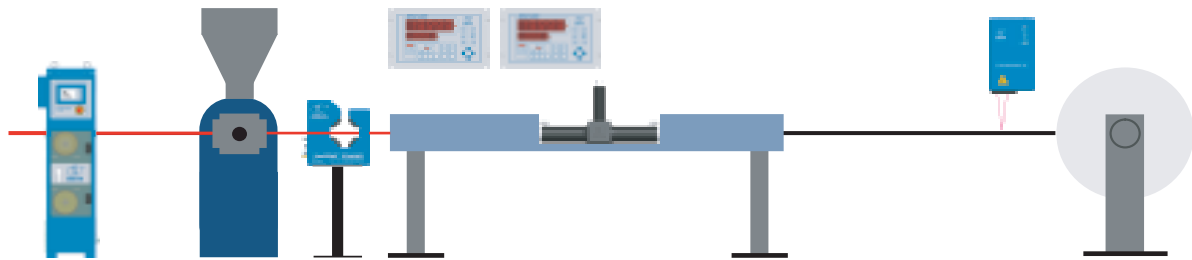
The CS2G(XY) processes data from D3, the diameter gauge positioned after the cooling trough, and transmits control signals to the extruder.

Diameter Control Using Hot Diameter and Shrinkage Offset



The CS2G(XY) processes data from D2, the DG Series diameter gauge positioned before the cooling trough, factors in a preset shrinkage value (in absolute or percentage terms) and transmits control signals to the extruder.

Hot Diameter Control and Capacitance Monitoring/Control



The CS2GXY processes data from D2, the DG Series diameter gauge positioned before the cooling trough, and transmits control signals to the factory PLC or extruder.
The CS2G-CAP simultaneously processes and displays capacitance readings from the CG Series capacitance gauge, and transmits control signals to the factory PLC or extruder.

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