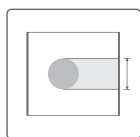


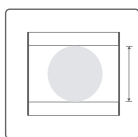
The InteliSENS™ DG Series of laser scanning diameter gauges provides fast, accurate and repeatable measurements for products manufactured within critical tolerance limits. Robust industrial design ensures reliable operation in the most challenging of production environments. The compact design and use of advanced Digital Signal Processing electronics make these gauges extremely easy to integrate. The gauge head features RS232 and CANbus as standard; Profibus is an available option. Analogue and contact closures are provided in the optional PSU-RS2-AR, and CS2G units. These NEXIS™ series control systems enable cost effective and accurate process control for manufacturers of wire, cable, tubing, piping and many other continuously produced materials.

Data Sheet

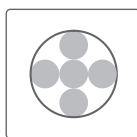
MEASUREMENT MODES



SOLID



GLASS



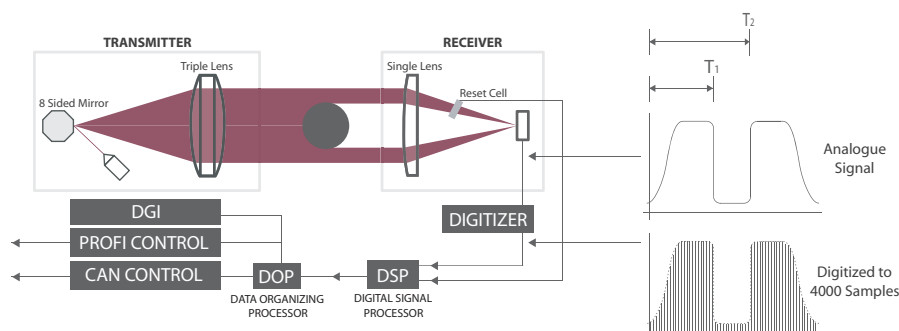
HELIX

TECHNOLOGY

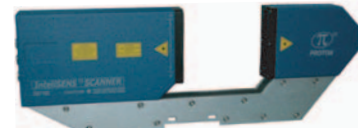
- Scan Time (ST) is a function of the Scan Velocity (SV) and the Gate Size (GS). $ST = \frac{GS}{SV}$
- Edge Position (EP1) is Scan Velocity (SV) x Time T1 $EP1 = SV \times T1$
- Edge Position (EP2) is Scan Velocity (SV) x Time T2 $EP2 = SV \times T2$
- Product Dimension $OD = EP2 - EP1$ or $(T2 - T1)$

BENEFITS

- 600 Scans Per Second (Option up to 1400)
- Single Scan Analysis
- Non-Contact Measurement
- Multiple Measurement Modes
- Eliminates Operator Measurement Error
- 100% Quality Inspection
- Advanced DSP Technology
- Unaffected by Speed and Vibration
- Excellent Resistance to Dust and Dirt
- Compact, Robust Design
- IP65, NEMA4 Protection
- Intelligent Sensor



SPECIFICATIONS



Model	DG1030	DG1060	DG1100
Gate Size	30mm (1.181inch)	60mm (2.362inch)	100mm (3.937inch)
Minimum Size	0.1mm (0.004inch)	0.2mm (0.008inch)	0.5mm (0.0197inch)
Maximum Size	27mm (1.063inch)	57mm (2.244inch)	100mm (3.937inch)
Accuracy : 0.008%	0.001mm (0.00004inch)	0.0015mm (0.00006inch)	0.002 mm (0.00008")
Gauge Dimensions (LxWxH)	290 x 66 x 170mm (11.43 x 2.60 x 6.70inch)	425 x 68 x 212mm (16.75 x 2.68 x 8.35inch)	504 x 68 x 230mm (19.68 x 2.68 x 9.06inch)
Gauge Weight	5 kg (11 lbs)	8 kg (17.6 lbs)	10 kg (22 lbs)
Measurement Rate	600 scans / second		
Units of Measurement	mm, inch		
Gauge Power	24 Vdc 1 Amp		
Temperature Range	5°C - 45°C (41°F - 113°F)		
Relative Humidity	90% 38°C (105°F)		
Degree of Protection	IP65, NEMA4		
Gauge Head Serial I/O	Standard: RS232/USB. Options: Profibus, CANbus		
SPC	SPC - Max, Min, Mean, Cp, CpK.		
FFT	FFT - Frequency & Amplitude of Regularly Occurring Diameter Variations		
SSFD	Single Scan Flaw Detection - Detects Lumps and Neckdowns		
HELIX	Measures the Enveloping Diameter of Stranded and Twisted Products		
Presets	Diameter, +Tol, -Tol, +Flaw, -Flaw		
Glass Logic	Measures Transparent Products		
PSU-RS2-AR Serial I/O	RS232 / USB, CANbus		
Speed Input	Required when using control output or when the gauge is in HELIX mode.		
Relay Output	4x Volt Free Max Rating 50 Vdc (1.Status, 2. Upper Tolerance, 3. Lower Tolerance, 4. SSFD)		
Analogue Output 1	16 Bit 10 Vdc - Selectable ØX or Average		
Analogue Output 2	16 Bit 10 Vdc - ØY or ±5 Vdc Average Error		

COMMUNICATIONS

RS232

RS232 / USB

Standard: in all DG gauge heads

PROFI
BUS

Profibus

Option: in DG Gauge Head

INDUSTRIAL
ETHERNET
IP

Ethernet IP

Option: In PSU-RS2-IP

DEVICENET

DeviceNet

Option: In PSU-RS2-DN

ACCESSORIES



DGI

Gauge Head Indicator



KAL 30, KAL 60

Calibration Kits



GRS 30

Guide Rollers



PSU-RS2-AR

Power Supply Unit + RS232
+ Analogue + Relay



PSU-RS2-IP

Power Supply Unit + RS232
+ Ethernet IP



PSU-RS2-DN

Power Supply Unit + RS232
+ DeviceNET

Height Stands

HST-2

HST-1



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A PDF version of this datasheet is available from our website.

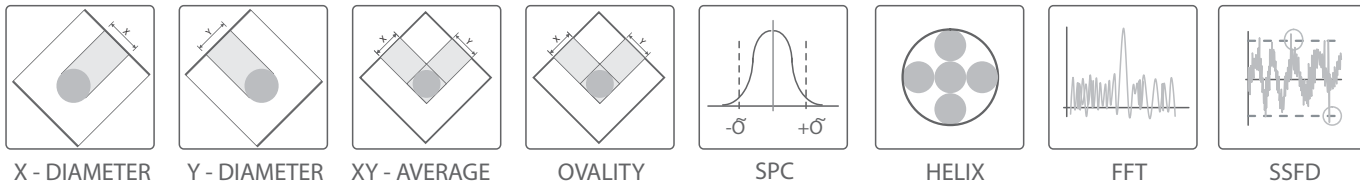
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Printed specifications and information contained within this publication are subject to change without notice.

DG1000 - D5 Issue 8en, January 2009



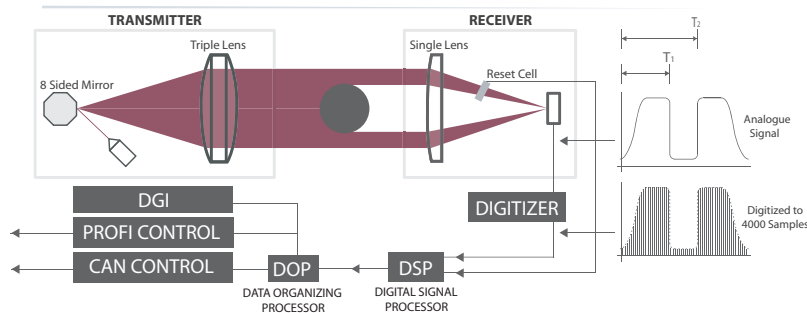
The InteliSENS™ DG Series of laser scanning diameter gauges provides fast, accurate and repeatable measurements for products manufactured within critical tolerance limits. Robust industrial design ensures reliable operation in the most challenging of production environments. The compact design and use of advanced Digital Signal Processing electronics make these gauges extremely easy to integrate. The gauge head features RS232 and CANbus as standard; Profibus is an available option. Analogue and contact closures are provided in the optional PSU-RS2-AR, and CS2GXY and CS3G units. These NEXiS™ series control systems enable cost effective and accurate process control for manufacturers of wire, cable, tubing, piping and many other continuously produced materials.

MEASUREMENT MODES AND FEATURES



TECHNOLOGY

- Scan Time (ST) is a function of the Scan Velocity (SV) and the Gate Size (GS). $ST = \frac{GS}{SV}$
- Edge Position (EP1) is Scan Velocity (SV) x Time T1 $EP1 = SV \times T1$
- Edge Position (EP2) is Scan Velocity (SV) x Time T2 $EP2 = SV \times T2$
- Product Dimension $OD = EP2 - EP1$ or $(T2-T1)$

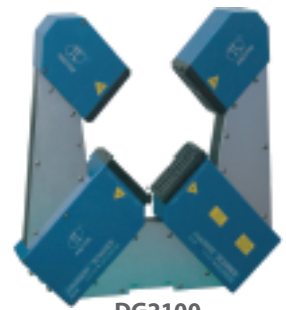
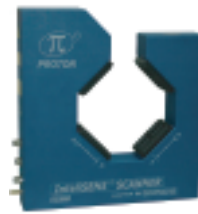


SINGLE AXIS SHOWN FOR CLARITY

BENEFITS

- 1200 Scans Per Second
- Single Scan Analysis
- Non-Contact Measurement
- Multiple Measurement Modes
- Eliminates Operator Measurement Error
- 100% Quality Inspection
- Advanced DSP Technology
- Unaffected by Speed and Vibration
- Excellent Resistance to Dust and Dirt
- Compact, Robust Design
- IP65, NEMA4 Protection
- Intelligent Sensor

SPECIFICATIONS



Model	DG2006	DG2030	DG2060	DG2100
Gate Size	30mm (1.181inch)	30mm (1.181inch)	60mm (2.362inch)	100mm (3.937inch)
Minimum Size	0.1000mm (0.004inch)	0.1mm (0.004inch)	0.2mm (0.008inch)	0.5mm (0.0197inch)
Maximum Size	6.5534mm	27mm (1.063inch)	57mm (2.244inch)	100mm (3.937inch)
Accuracy : 0.008%	0.001mm (0.00004inch)	0.001mm (0.00004inch)	0.0015mm (0.00006inch)	0.002mm (0.00008inch)
Resolution	0.0001mm (0.00004inch)	0.001mm (0.00004inch)	0.001mm (0.00004inch)	0.01mm (0.0004inch)
Gauge Dimensions	260 x 66 x 270mm	260 x 66 x 270mm	360 x 68 x 402mm	674 x 68 x 654mm
Gauge Weight	7.5 kg (16.5 lbs)	7.5 kg (16.5 lbs)	14 kg (31 lbs)	20 kg (44 lbs)
Measurement Rate	1200 scans / second			
Units of Measurement	mm, inch			
Gauge Power	24 Vdc 1 Amp			
Temperature Range	5°C - 45°C (41°F - 113°F)			
Relative Humidity	90% 38°C (105°F)			
Degree of Protection	IP65, NEMA4			
Gauge Head Serial I/O	Standard: RS232/USB. Options: Profibus, CANbus			
SPC	SPC - Max, Min, Mean, Cp, CpK.			
FFT	FFT - Frequency & Amplitude of Regularly Occurring Diameter Variations			
SSFD	Single Scan Flaw Detection - Detects Lumps and Neckdowns			
HELIX	Measures the Enveloping Diameter of Stranded and Twisted Products			
Presets	Diameter, +Tol, -Tol, +Flaw, -Flaw			
Glass Logic	Measures Transparent Products			
PSU-RS2-AR	Serial I/O Speed Input Relay Output Analogue Output 1 Analogue Output 2			
	RS232 / USB, CANbus Required when using control output or when the gauge is in HELIX mode. 4x Volt Free Max Rating 60 Vdc (1. Status, 2. Upper Tolerance, 3. Lower Tolerance, 4. SSFD) 16 Bit 10 Vdc - Selectable ØX or Average 16 Bit 10 Vdc - ØY or ±5 Vdc Average Error			

COMMUNICATIONS

RS232

RS232 / USB

Standard: in all DG gauge heads



Profibus

Option: in DG Gauge Head



Ethernet IP

Option: In PSU-RS2-IP

DEVICENET

DeviceNet

Option: In PSU-RS2-DN

ACCESSORIES



DGI

Gauge Head Indicator



PSU-RS2-AR

Power Supply Unit + RS232
+ Analogue + Relay



KAL 30, KAL 60

Calibration Kits



PSU-RS2-IP

Power Supply Unit + RS232
+ Ethernet IP



GRS 30

Guide Rollers



PSU-RS2-DN

Power Supply Unit + RS232
+ DeviceNET



Height Stands

HST-1

HST-2

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