PROTON
PRODUCTS

InteliSENS ™ **DG K**SERIES
SUPER FAST

≡ *SUPER FAST*

HIGH ACCURACY, NON-CONTACT MEASUREMENT

Measure continuous processes with 100% quality inspection

MEASURE, CONTROL, INSPECT, ALARM, REPORT

INTRODUCTION

The InteliSENS™ DUAL and TRIPLE-AXIS diameter gauges are SUPER FAST, with scan rates of 5000 scans/s or 10,000 scans/s, providing outstanding product quality supervision. Using 3 LED light sources, high-speed digital signal processing (DSP) and specialized optical design technology to MEASURE, CONTROL INSPECT, ALARM and REPORT diameter, as well as Surface Quality Defects (SQD) as they happen, reducing customer complaints and improving your reputation as a quality product supplier.

The 3 LED light sources of the triple-axis diameter gauges cover the Complete Circumference of the product, and any immediate change in the diameter is detected by the CCD optical receiver, Measuring, Controlling, Alarming and Reporting the diameter as well as the height, length and location of lumps and necks (if SSFD is purchased) along and around the product.

Extremely easy to install, integrate and use, the InteliSENS™ super fast diameter gauge can be used as a stand-alone device or integrated to the machine PLC. Audio/Visual Alarm, Fault Printer and Datalogging PC Softwareare available to complement the diameter gauge, closing the loop on Quality Control.

Applications include production processes such as Wire Drawing, Braiding, Cable Insulating and Jacketing, Rewinding and Coiling, Rubber and Plastic Extrusion Processes for Hose, Tube and Pipe production.

NON-CONTACT MEASUREMENT

- 10,000 Measurement / Axis / Sec
- No Moving Parts
- 2 Axis and 3 Axis Gauges
- Ethernet IP/WiFi
- Feedback Control*
- Lump & Neck Detection
- SPC*
- FFT*
- Excellent Value: Low Cost of Ownership

* Optional extra

■ **Pipe** ■ **Tube** ■ **Hose** ■ **Wire** ■ **Cable**

Choose from two scan rates: 5,000 scans/s(super fast) or 10,000 scans/s (extreme)

CONNECT

Complementing the standard communications inputs and outputs is a wide range of factory fitted optional communications to meet your needs.
Connect to your existing indicator / display device, PLC or PC.

Airwipe air inlet

RJ45

PROFI/EIP/DEV   RS232/485   CAN/POWER   INTERFACE

Bluetooth* antenna
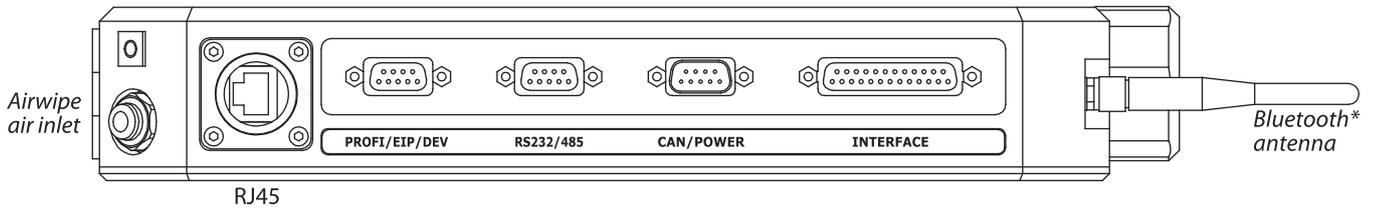
Standard communications

CANBUS   Ethernet TCP IP   🅱 Bluetooth®

RS232   RS422   RS485

*Bluetooth not available in Europe

Optional communications

PROFI BUS
PROCESS FIELD BUS ®

PROFI NET
INDUSTRIAL ETHERNET ®

INDUSTRIAL ETHERNET IP

DEVICENET

Modbus   Analogue   Wi Fi

DISPLAY and REPORT

AiG2: Interface, display

Event printer

PCIS: interface/ logging software
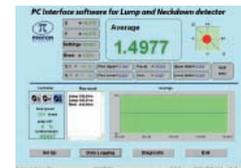
ACCESSORIES

The InteliSENS™ DG Series has a number of accessories that complement the gauge head. The AiG-2 can be connected directly on the gauge head or useone of the CAN cables to position the display in the production line control panel. If you are making several connections, such as for alarms and line speedinput, the PSU-BOB makes it simple and easy to wire up. Consult your local Proton Products Representative to discuss which accessories will suit your requirements.

PSU-BOB
Power supply and break-out-box

PSU-UNI
Power supply for DB25 socket

Terminal Strip
Simplofy wiring for input and output connections

SPECIFICATIONS

InteliSENS™ DG Series	DG2030-5K	DG2030-10K	DG2060-5K	DG2060-10K	DG3030-5K	DG3030-10K	DG3060-5K	DG3060-10K
Number of axes	2 axes	2 axes	2 axes	2 axes	3 axes	3 axes	3 axes	3 axes
Scan rate	5000	10000	5000	10000	5000	10000	5000	10000
Cumulative scan rate	10000	20000	10000	20000	15000	30000	15000	30000
Accuracy (µm)	-1~+1	-1~+1	±(3µm + 0.01% of object diameter)	±(3µm + 0.01% of object diameter)	-1~+1	-1~+1	±(3µm + 0.01% of object diameter)	±(3µm + 0.01% of object diameter)
Output resolution	1µm	1µm	1µm	1µm	1µm	1µm	1µm	1µm
Measurement units (user configurable)	millimetres (line speed: millimetres / minute, length: metres) inches (line speed: feet / minute, length: feet)							
Optical gate width	32mm	32mm	64mm	64mm	32mm	32mm	64mm	64mm
Minimum object size	0.2mm	0.2mm	0.3mm	0.3mm	0.2mm	0.2mm	0.3mm	0.3mm
Maximum object size	30mm	30mm	60mm	60mm	30mm	30mm	60mm	60mm
Light source	LED							
Gauge weight	4.5KG	4.5KG	12KG	12KG	5KG	5KG	18KG	20KG
Power requirement	15~28 VDC, 30W max；85~274 VAC, 40W max （with AiG2 display unit）							
Temperature range	+5~+45℃ （41~113℉ ）							
Statistics	Maximum, minimum, mean, standard deviation, Cp, Cpk							
feedback controller	Proportional Integral feedback controller							
SPC	Statistical Process Control automatic set point for PI feedback controller (requires PI feedback controller option)							
FFT	Fast Fourier Transform analysis for amplitude and frequency of periodic diameter variations							
SMFD	Single Measurement Flaw Detection (Lump and Neck detection)							

INTELISENS™ STANDARD INTERFACES

2x digital inputs	User configurable function	Reset, Print Activation
	Maximum input voltage	24 VDC
4x relay outputs	User configurable function	Gauge OK, Upper tolerances exceeded, Lower tolerances exceeded,(SMFD)
	Isolated contact rating	maximum 50 VDC / 30 VAC / 0.5 A
	Required for optional PI feedback controller operation	
Line speed inputs	Analogue input	0 - 10 Vdc, user scalable
	Speed pulse input	250 kHz max frequency, 30 V or 50 V max pulses (on two distinct inputs)
Communication	RS-232*, RS-422, RS-485, CAN-bus**, Ethernet	

InteliSENS™ OPTIONAL INTERFACES（**Must be specified for installation at time of manufacture, cannot be retrofitted.**）

3x Analogue outputs	±10 Vdc output of diameters or errors, user scalable
Communication	Choice of any one of: Bluetooth* or WiFi*
	Choice of any one of: PROFIBUS, EtherNet/IP or DeviceNET

CONTACT

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