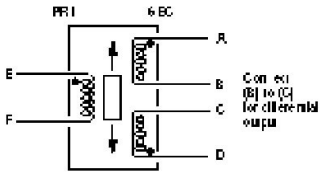
GCA/GCD Series (Spring Loaded Design)

GCA/GCD Series gage head with stainless steel construction enables the GCA/GCD performs in environments containing moisture, dirt and other contaminants. Electronic components are hermetically sealed for added protection against hostile conditions. These are heavy duty, long stroke units with ranges up to ±2.0" (50mm). Maximum spring force is typically 8 oz (226.8g), dependent upon probe position. The working end or probe has a removable chrome plated, hardened tool steel tip threaded to the probe with a 4-48 UNF-2A threading. Schaevitz® replacement and alternate contact tips are available. Tips are also interchangeable with AGD dial indicator tips.

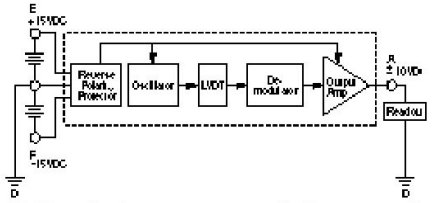
Internal construction prevents the core and shaft from rotating as they move longitudinally. Units terminating into connectors allow for easy cable replacement if damage should occur. Installation and adjustment are facilitated by external threading; locknuts are provided.

GC series gage heads are available in AC and DC versions. AC-operated units utilize external signal conditioning (see the Instrumentation section of this website); DC-operated units incorporate the core, LVDT and all necessary electronics in one housing. Use of monolithic, surface mount circuitry eliminates most of the volume, weight and cost of conventional AC excitation, amplification and demodulation equipment.

wiring – AC models



wiring – DC models



(GCD units have reverse polarity protection)

FEATURES

- CE Compliant (DC Models)
- All-Welded Construction
- Resistant to Harsh Environments
- MS-Type Connector
- Electronics Hermetically Sealed
- Calibration Certificate Supplied with Every Gage Head
- Compatible with All Schaevitz Signal Conditioners
- Special Contact Tips

APPLICATIONS

- In-Process Measurements to Close Loop with PLC or CNC Controller
- Environments Requiring Hermetically Sealed Transducers
- High Temperatures (300°F for AC Units)

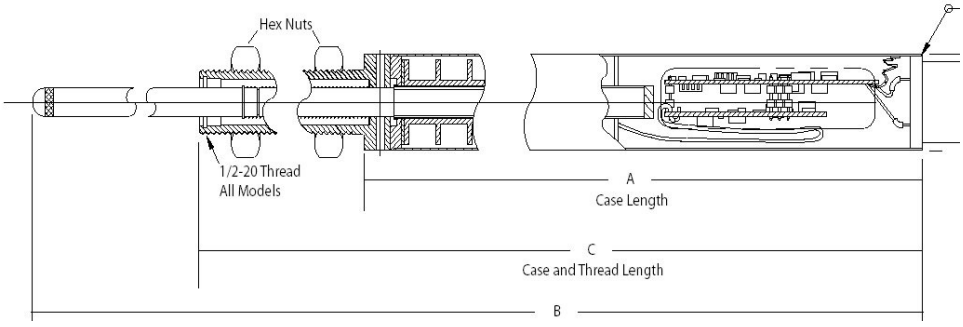
OPTIONS

- Mating Connector
- Special Contact Tips
- Air Extend, Spring Retract

dimensions

in (mm)

Typical Cutaway View



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GCA/GCD Series (Spring Loaded Design)

GCA Specifications @ 2.5 kHz – AC-Operated Models

Model Number	GCA-121-050	GCA-121-125	GCA-121-250	GCA-121-500	GCA-121-1000	GCA-121-2000
Gaging Range	±0.050”	±0.125”	±0.250”	±0.500”	±1.000”	±2.00”
	±1.27mm	±3.17mm	±6.35mm	±12.7mm	±25.4mm	±50.8mm
Phase Shift	+6	+5	+5	+2	+1	-1
Sensitivity	4.2	2.4	1.6	1.1	0.84	0.34
Impedance						
Primary	430	1710	800	900	900	525
Secondary	950	1820	940	1150	2100	535
Pretravel						
Inches	0.26	0.30	0.06	0.18	0.01	0.1
Millimeters	6.6	7.6	1.5	4.5	0.3	2.5
Minimum Overtravel						
Inches	.15	.15	.15	.20	.10	0
Millimeters	3.8	3.8	3.8	5.1	2.5	0
Spring Load (oz)	3.5 to 5.8	3.5 to 5.8	3.5 to 5.8	3.2 to 8.0	3.2 to 8.0	3.2 to 8.0
Gaging Range	99 to 164 g	66 to 164g	99 to 164g	91 to 227g	91 to 227g	91 to 227g
Dimensions						
A (±0.01”)						
Inches	1.9	2.75	3.61	5.29	7.55	20.89
Millimeters	48.3	69.9	91.7	134.4	191.8	276.6
B (±0.03”)						
Inches	4.33	5.14	6.10	10.75	13.01	20.94
Millimeters	110.0	130.6	154.6	273.1	330.5	531.9
C (±0.02”)						
Inches	3.27	4.12	4.99	8.27	10.53	16.37
Millimeters	102.1	104.6	126.7	210.1	267.5	415.8
Weight						
Ounces	2.2	2.9	3.17	5.0	7.5	13
Grams	64	82	90	142	213	369

GCD Specifications – DC-Operated Models

Model Number	GCA-121-050	GCA-121-125	GCA-121-250	GCA-121-500	GCA-121-1000	GCA-121-2000
Gaging Range	±0.050”	±0.125”	±0.250”	±0.500”	±1.000”	±2.00”
	±1.27mm	±3.17mm	±6.35mm	±12.7mm	±25.4mm	±50.8mm
Sensitivity	200	80	40	20	10	5
Pretravel						
Inches	0.30	.35	.18	.20	0.01	0.1
Millimeters	7.62	8.8	4.5	5.08	0.3	2.25
Minimum Overtravel						
Inches	.39	.14	.03	1.0	.10	0
Millimeters	9.4	3.5	.76	25.4	2.5	0
Spring Load (oz)	3.5 to 5.8	3.5 to 5.8	3.5 to 5.8	3.2 to 8.0	3.2 to 8.0	3.2 to 8.0
Gaging Range	99 to 14 g	66 to 164g	99 to 164g	91 to 227g	91 to 227g	91 to 227g
Dimensions						
A (±0.01”)						
Inches	2.66	3.50	4.37	6.06	8.31	11.48
Millimeters	67.6	88.9	111.0	153.9	211.1	291.6
B (±0.03”)						
Inches	5.08	5.90	6.77	11.53	13.76	21.52
Millimeters	129.0	149.9	172.0	292.9	349.5	546.6
C (±0.02”)						
Inches	4.02	4.87	5.74	9.05	11.29	16.96
Millimeters	102.1	123.7	145.8	229.9	286.8	430.8
Weight						
Ounces	2.5	3.2	3.5	5.5	8.0	14
Grams	71	93	100	156	227	397

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GCA/GCD Series (Spring Loaded Design)

Specifications – AC Operated Models

Excitation Voltage	3 V nms (nominal)
Frequency Range	400 Hz to 10 kHz
Operating Temperature Range	-65℉ to 300℉ (-55℃ to 150℃)
Linearity	+/- 0.25% of full range output
Null Voltage	<0.5% full scale output
Repeatability	0.000025” (.0006 mm)
Shock Survival	1,000 g for 11 msec
Vibration Tolerance	20 g up to 2 kHz
Coil Form Material	High Density, glass-Filled Polymer
Housing Material	AISI 400 Series Stainless Steel
Electrical Termination	6-pin Connector

Specification – DC Operated Models

Input Voltage	3 V nms (nominal)
Frequency Range	2 kHz to 20 kHz
Linearity	±0.25% of full range output
Operating Temperature Range	32℉ to 160℉
Null Voltage	0 VDC
Repeatability	0.000025” (0.0006 mm)
Shock Survival	250 g for 11 msec
Vibration Tolerance	10 g up to 2 kHz
Coil Form Material	High Density, glass-Filled Polymer
Electrical Termination	6-pin connector

ordering information

Specify the appropriate model number, followed by the desired Gaging Range suffix. For example, GCA-121-060 is AC operated with a ±0.050” range. Special contact tips are also available and can be ordered separately.

Model Number	**Operation**
GCA-121	AC
GCA-121	DC

Gaging Range	**Description**
050	±0.050” (1.27mm)
125	±0.125” (3.17mm)
250	±0.250” (6.35mm)
500	±0.50” (12.7mm)
1000	±1.00” (25.4mm)
2000	±2.00” (50.8mm)

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