

## GCT

### Schaevitz™ Gage Head Transmitter

- Measurement ranges 0 ... 6.35 mm to 0 ... 50.8 mm
- Gage head
- Linearity 0.5 % FS
- Output 4 ... 20 mA, 2-wire
- Supply voltage 10.5 ... 28 VDC



The GCT Series of heavy-duty gage heads enable high performance in environments containing moisture, dirt, and fluid contaminants. With a spring loaded LVDT, a precision linear bearing, and internal signal conditioning electronics operating on a 4 ... 20 mA loop, the GCT is ideal for difficult industrial environments and remote locations where sensor power is not readily available and long cable runs are expected. The 4-20mA signal is less susceptible to EMI and RFI interference than low amplitude AC or DC signals.

These robust gage heads allow measurements over stroke ranges from 0 ... 0.250 inch [6.35 mm] up to 0 ... 2.0 inches [50.8 mm]. The maximum spring force is typically less than 8 oz [230 grams]. A removable black-chromed, hardened tool steel tip is threaded (4-48UNF-2A) to the working end. Internal construction prevents the core and shaft from rotating as they move longitudinally. The integral electrical connector (welded) provides for easy installation and allows replacing a damaged cable without sacrificing the sensor. Installation and adjustment are facilitated by an external 1/2-20 mounting thread and the two locknuts supplied with each unit.

The ruggedness, long life cycle, and very high reliability of the GCT Series provide the lowest cost of ownership over the life of the equipment onto which they are installed. The one-piece front end (barrel which contains the bearing assembly), machined from solid stainless steel bar, coupled with a bronze bushing, has far greater resistance to bending forces and side loads compared to other designs. This is particularly important on the longer stroke versions; it reduces the common risk of probe damage/bending during installation or maintenance of industrial equipment. The GCT Series designs also require fewer parts and weld joints, thereby increasing overall structural integrity and reliability.

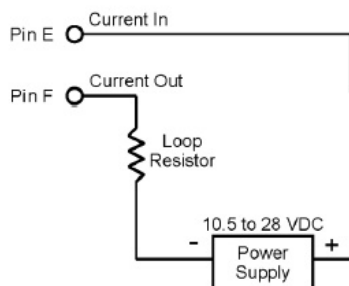
#### Features

- 4 ... 20 mA, two wire operation
- <0.5% linearity
- All welded stainless steel construction
- Air extend/spring retract available
- Long cycle life
- Reverse polarity protection
- Resistant to harsh environments
- Calibration certificate supplied with each unit

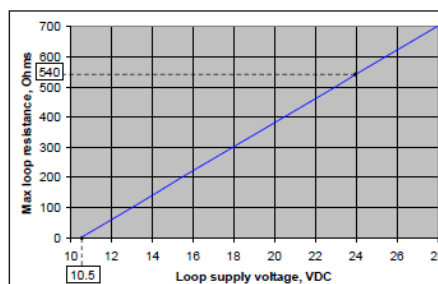
#### Applications

- Bridge expansion monitoring
- Pipeline vibration monitoring
- Valve position
- Compressor feedback
- Noisy environments / long cable runs
- In-process measurements (feedback loop with PLC or CNC controller)

#### ■ Wiring and Loop Resistance



Pins A through D: no connection



## ■ Specifications

### Electrical Specifications

	GCT-250	GCT-500	GCT-1000	GCT-2000
Stroke:	0 ... 0.25 inch 0 ... 6.35 mm	0 ... 0.50 inch 0 ... 12.7 mm	0 ... 1 inch 0 ... 25.4 mm	0 ... 2 inch 0 ... 50.8 mm
Sensitivity:	64 mA/inch	32 mA/inch	16 mV/inch	8 mV/inch
Temperature coefficient of sensitivity:	0.04 %/K			
Supply voltage:	10,5 ... 28 VDC			
Output:	4 ... 20 mA, 2-wire			
Maximum loop resistance:	540 Ω at 24 VDC			
Output noise and ripple, max.:	25 μA <sub>rms</sub>			
Linearity, max.:	±0.5 % of FS			
Repeatability:	0.6 μm (25 μinch)			
Stability:	0.10 % after 30 minute warm up			
Frequency reponse, dynamic, max.:	15 Hz			

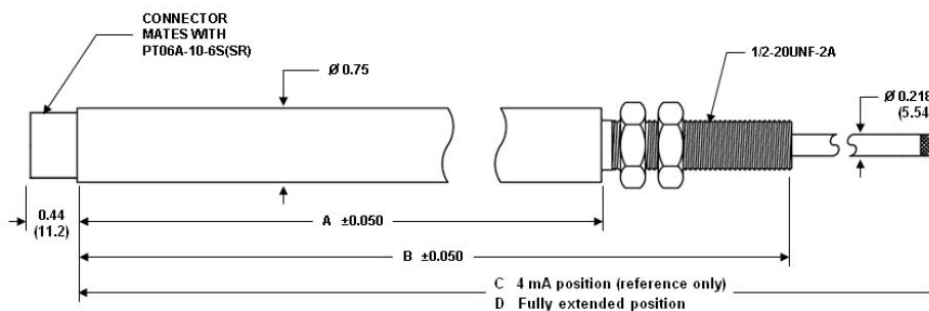
### Environmental Specifications and Material

Operating temperature range:	-13 ... +185 °F [-25°C ... +85 °C]
Survival temperature:	-65 ... +250 °F [-55 ... +125 °C]
Shock survival:	250 g (11ms half-sine)
Vibration tolerance:	10 g up to 2 kHz
Housing material:	AISI 400 Series stainless steel
Electrical connector:	6-pin MS type connector (MIL-C-5015)
NEMA IEC 60529 rating:	IP68 to 1000 psi [70 bars] with use of proper mating connector plug

#### Notes:

- All values are nominal unless otherwise noted

## ■ Mechanical Specifications



All dimensions in inches, values in brackets in mm, approx. values.

These drawings are for information only and not intended for construction purpose. Please ask for detailed drawings.

Model	Stroke		Pretravel		Overtravel, min.		Dimensions, approx.							
	inch	mm	inch	mm	inch	mm	A		B		C		D	
							inch	mm	inch	mm	inch	mm	inch	mm
GCT-250	0.25	6.35	0.20	5.1	0.25	6.3	4.66	118.4	6.03	153.2	6.72	170.7	7.06	179.3
GCT-500	0.50	12.7	0.20	5.1	0.05	1.3	5.79	147.1	7.15	181.6	7.68	195.1	8.18	207.8
GCT-1000	1	25.4	0.15	3.8	0.20	5.1	7.20	182.9	10.17	258.3	11.97	304.0	12.65	321.3
GCT-2000	2	50.8	0.20	5.1	0.05	1.3	9.45	240.0	12.43	315.7	13.66	347.0	14.9	378.5

Due to continual product development, ALTHEN and partners reserve the right to vary the foregoing details without prior notice.