

GC51 Pressure Transmitter

FEATURES

- Bright backlit 4-digit LCD display
- “Loop Check” function allows unit to output 4-20mA without applying pressure
- Internal “push-button” configurability allows quick range changes
- “Min./Max. Hold” function allows display to capture pressure events
- Easily rotatable display, 90° increments

TYPICAL USES

- Pump Control
- Hydraulic Systems
- Compressor Control
- Process Automation
- Municipal Water Tank Level
- Renewable Energy and Hydrogen



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PERFORMANCE SPECIFICATIONS

Reference Temperature:	73°F (23°C)
Accuracy:	±0.25% of span (URL) Accuracy includes the effects of linearity, hysteresis, and repeatability
Stability:	±0.25% of span (URL)/year
Output Resolution:	0.1% of span (URL)

ENVIRONMENTAL SPECIFICATIONS

Temperature	14°F to 140°F (-10°C to 60°C)
Effects:	±0.02% FS (URL)/10 K
Temperature Limits:	Storage: -4°F to 158°F (-20°C to 70°C) Operating: 14°F to 140°F (-10°C to 60°C) Compensated: 14°F to 140°F (-10°C to 60°C)

FUNCTIONAL SPECIFICATIONS

Overpressure:	Proof:	Burst:
≤1,500 psi	2 X Range	5 X Range
3,000 & 5,000 psi	1.5 X Range	3 X Range
7,500 psi	1.2 X Range	3 X Range (A-Sensor) 5 X Range (D-Sensor)
Response Time:	30 ms (user adjustable)	
Vibration:	5 g's 150Hz	
Shock Effect:	10 g's 16ms	
Display:	Type: 4 digit, 10mm LCD with LED backlight Accuracy: ± 0.25% FS (URL) + last digit	

ELECTRICAL SPECIFICATIONS

Output Signal:	4-20 mA (2 Wire)
Supply Voltage:	12-32 Vdc
Rangeability/Adjustment:	Zero: -10% to +110% span Span: -10% to +110% span (Accuracy and output resolution based upon F.S. (URL) value)

KEY BENEFITS

- Robust NEMA 4 (IP66) aluminum die cast housing
- Scaling function allows display to indicate user defined physical units
- Up to 8X smaller than a conventional process transmitter
- Wetted parts material tailored for high pressure Hydrogen

Insulation Resistance:	50 Vdc (>100 MΩ)
EMC Compliance:	EMC Directive 2004/108/EC IEC/EN 61326-1: 2006 (EMI Class A/ EMS Table 2) IEC/EN 61326-2-3: 2006 (Annex BB (Pressure Transducer))

PHYSICAL SPECIFICATIONS

Weight:	~ 0.45 kg
Environmental Rating:	IP66/NEMA 4
Electrical Connection:	½ NPT Female Conduit Cable Gland (Cable diameters 0.35" to 0.47")
Mounting:	Mounting bracket included
Process Connection:	¼ NPT Female

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WETTED MATERIAL

Execution 1:
 Diaphragm: Stainless steel 17-4PH
 Process Connection: Stainless steel 316
 Media Compatibility: Fluids and gases compatible with 316 and 17-4PH
 SUH660/A286

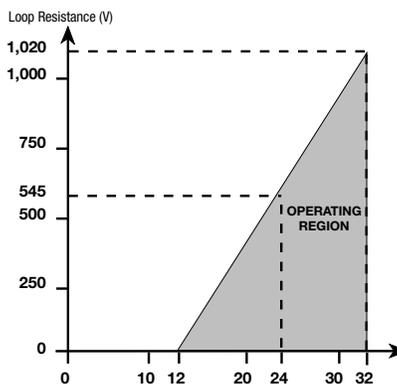
Execution 2:
 Diaphragm: Stainless steel 316L (1.4404)
 Process Connection: Stainless steel 316L (1.4404)
 Media Compatibility: Fluids and gases compatible with 316L (1.4404)

Execution 3:
 Diaphragm: SUH660/A286
 Process Connection: Stainless steel 316 high Nickel equivalent
 Media Compatibility: Hydrogen, high pressure

NON-WETTED MATERIAL

Enclosure: Aluminum, epoxy coated

LOAD LIMITATIONS 4-20 mA OUTPUT ONLY



LOOP SUPPLY VOLTAGE

$$V_{min} = 12V + [0.022A * R_L]$$

*Includes a 10% safety factor

$$R_L = R_S + R_W$$

R_L = Loop Resistance (ohms)

R_S = Sense Resistance (ohms)

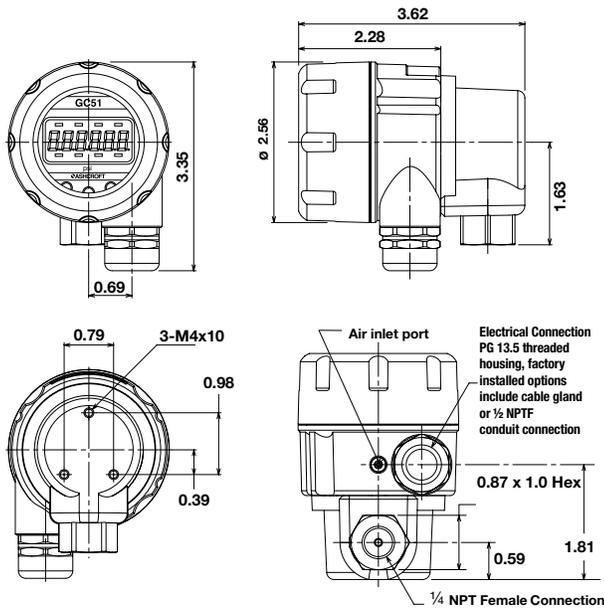
R_W = Wire Resistance (ohms)

ORDERING CODE	Example:	GC51	A	7	F02	42	CG	1MP	-XRH
Model		GC51							
GC51 - Rangeable pressure transmitter		GC51							
Sensor Materials - See table 1 on page 3 for compatible ranges									
A - 17-4PH Stainless steel			A						
C - 316L Stainless steel (1.4404); liquid isolated									
D - A286									
Accuracy									
7 - ±0.25% of span				7					
Pressure Fitting									
F02 - ¼ NPT Female					F02				
Output Signal									
42 - 4-20 mA Output signal						42			
Electrical Connection									
CG - Cable gland							CG		
CD - ½ NPT Female conduit									
Ranges (all available ranges see table 1 at page 3)									
1MP - 0/1 MPa								1MP	
Option (if including an option(s) must include an "X")									X
RH - 9 pt. NIST traceable calibration certificate									RH
6B - Cleaned for oxygen service									

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DIMENSIONS in [] are millimeters

For reference only, consult Ashcroft for specific dimensional drawings



Installation Drawings

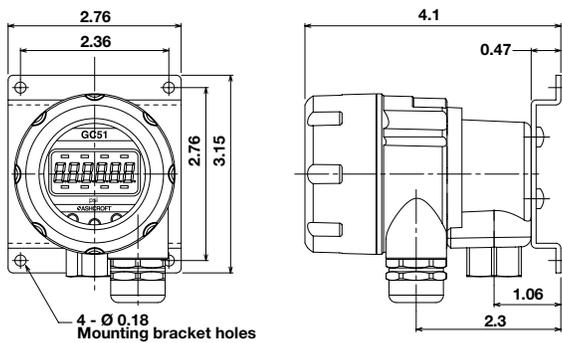


TABLE 1: RANGES AND AVAILABILITY MATRIX

Sensor Range		A Sensor - 17-4PH SS	Sensor C - 316L SS ISO	Sensor D - A286
psi	kPa/MPa	1)	•	
	-20/20 kPa		•	
	50/50 kPa		•	
	-100/0 kPa		•	
	-100/100 kPa		•	
	-100/300 kPa		•	
	0/35 kPa	1)	•	
	0/50 kPa	1)	•	
15	0/100 kPa		•	
30	0/200 kPa		•	
	0/300 kPa		•	
	0/120 kPa (abs)		•	
15&VAC	-0,1/0,1 MPa	•		
30&VAC	-0,1/0,2 MPa	•		
50&VAC	-0,1/0,3 MPa	•		
	-0,1/0,5 MPa	•		
	-0,1/1 MPa	•		
50	0/0,3 MPa	•		
100	0/0,5 MPa	•		
150	0/1 MPa	•		
300	0/2 MPa	•		
500	0/3,5 MPa	•		
1000	0/5 MPa	•		
1500	0/10 MPa	•		
3000	0/20 MPa	•		
5000	0/35 MPa	•		
7500	0/50 MPa	•		•
10000	0/70 MPa	2)	•	•
15000	0/100 MPa	2)	•	•
17500	0/120 MPa	2)	•	•

1) Accuracy limited to ±0,35 %
2) Accuracy limited to ±0,50 %