

MCS19



Application

- Aviation, space flight, Marine
- Military
- Petrochemical engineering
- Coal mining
- Auto industry
- Construction machinery
- Hydraulic system
- Industrial automation
- Air conditioning and HVAC
- Water treatment and supply

Feature

- Gauge, seal gauge and absolute pressure
- High accuracy
- High stability
- Wide temperature range
- Excellent media compatibility
- 20 times burst pressure
- 17-4PH solid structure

Description

MCS19 pressure sensor (Metal Coalesce System) represents a world-class innovative high-end pressure sensor technology originally created by Chinastar M&C. Chinastar owns the complete independent intellectual property rights and knowhow technology. The sensor based on 17-4PH stainless steel demonstrates the highest accuracy and stability within a very wide temperature range and are an ideal choice for demanding applications.



Specification

Standard Range: 0 ... 0.5, 1, 2, 5,10, 20 or 50 MPa

Pressure Type: Gauge, Absolute, Sealed gauge

Over Pressure: 2X

Burst Pressure: $\geq 20X$

Excitation: 2~10VDC

Zero Output: $\leq \pm 0.2mV/V$

Output Sensitivity: 1.5~2mV/V

Classification \ Accuracy	Standard	Class A	Class B
Non-linearity (%FS)	± 0.25	± 0.10	± 0.10
Hysteresis (%FS)	± 0.10	± 0.05	± 0.02
Repeatability (%FS)	± 0.10	± 0.05	± 0.02

Input /Output Impedance: 480 Ω ~ 800 Ω ; > 1600 Ω (A)

Response Frequency: > 1kHz

T.C. Zero : ≤ 0.01 ; 0.005 (A) ; 0.0025 (B) % FS/ $^{\circ}C$

T.C. Span : ≤ 0.01 ; 0.005 (A); 0.0025 (B) % FS/ $^{\circ}C$

Long-term Stability: <0.05%F.S./Y

Working Temperature: $-40^{\circ}C$ ~ $125^{\circ}C$, $-55^{\circ}C$ ~ $150^{\circ}C$ (A), $-65^{\circ}C$ ~ $175^{\circ}C$ (B)

Compensation Temperature: $-40^{\circ}C$ ~ $125^{\circ}C$, $-50^{\circ}C$ ~ $150^{\circ}C$ (A)

Storage Temperature: $-50^{\circ}C$ ~ $125^{\circ}C$

Insulation Resistance: $\geq 2G \Omega$ @ 250V

Insulation Strength: $\geq 250VAC$, $\geq 500VAC$ (A), $\geq 1000VAC$ (B)

Pressure Cycle Life: 10^8 times ($25^{\circ}C$)

Applicable Media: Compatible with 17-4PH SS



Structure and Dimension (mm)

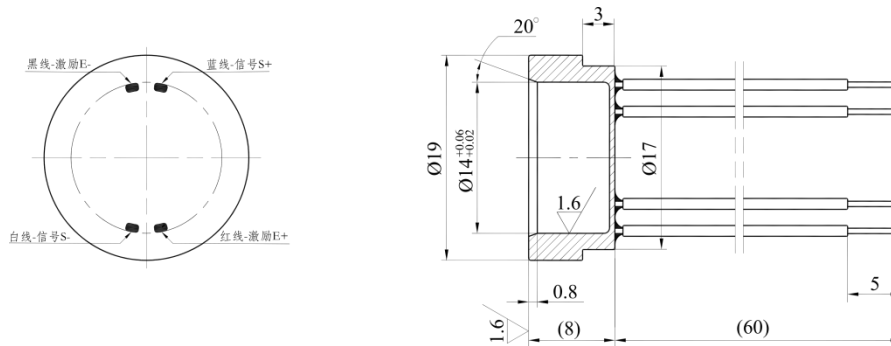


Fig. 1 Dimension of gauge pressure and lead definition (Bottom seal)

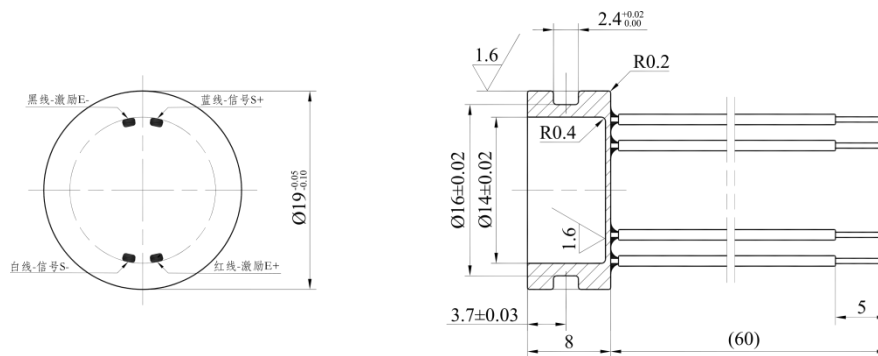


Fig. 2 Dimension of gauge pressure and lead definition (Side seal)

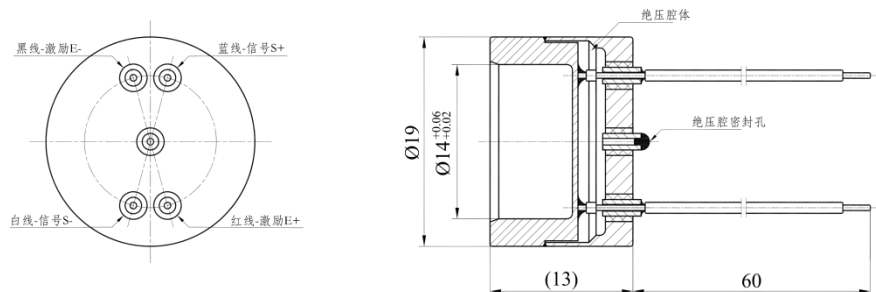


Fig. 3 Dimension of absolute pressure or sealed gauge and lead definition

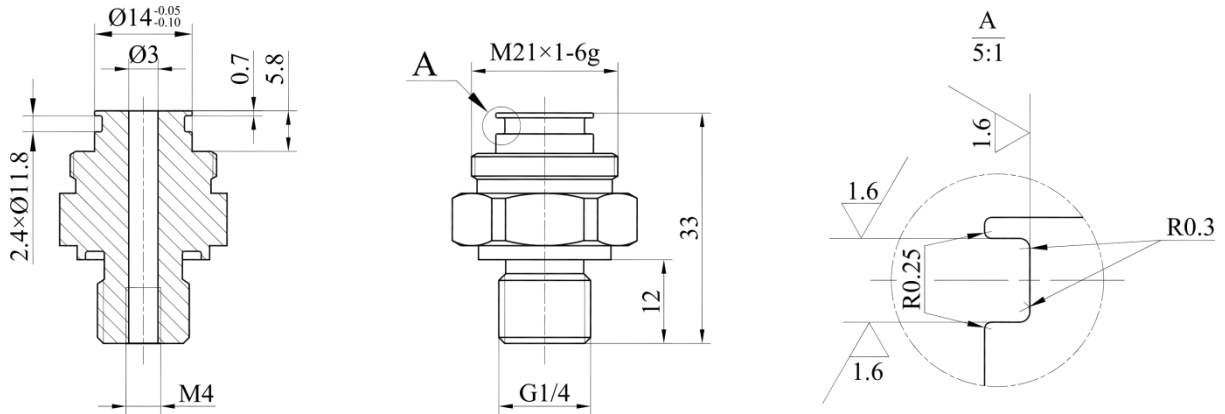
red wire = excitation (E+), black wire = excitation (E-), blue wire = signal (S+), white wire = signal (S-).



Assembly recommendation

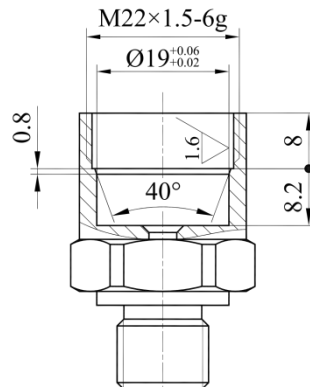
There are various assembly methods, including end face seal, inner side seal, outer side seal and end face welding seal.

a. O-ring inner sealing joint structure:

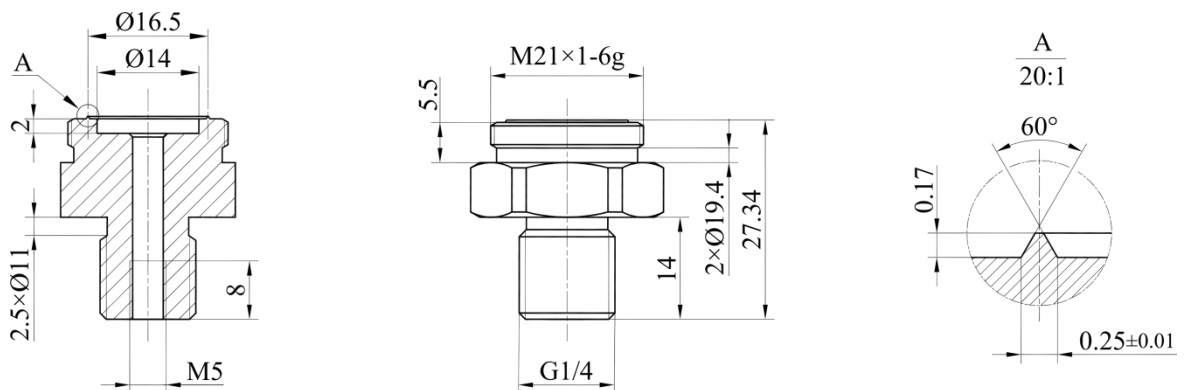


*** Applicable seal ring size: 11.2×1.5 O-ring

b. O-ring side seal joint structure:



c. Resistance welding (projection welding) seal joint structure:



d. Laser welded structure:

