

ms18c "monolit sensor"®
Temperature Compensated
O.E.M. PRESSURE SENSOR

◆ Technology : **Thick Film Strain Gage On Ceramic**

18 mm Diameter
0...2 to 0...600 bar
Gage/Relative Pressure

Excellent long term stability
Efficient temperature compensation
Operating temperature range – 40°C to + 135°C
High reliability level

Large volume OEM applications
All aggressive media (★)

The ms18c "monolit sensor"® is an **ideal Pressure sensing element** ready to be integrated inside an housing or directly mounted on board a machine. It is **fully temperature compensated** and guarantees a residual temperature effect inside the wide operating temperature range within $\pm 0.05\%$ FS /°C.



This feature results in a very stable sensor under very harsh conditions.

The Al₂O₃ ceramic substrate ensures an excellent chemical resistance against corrosion of many aggressive media, like solvents and acids. The ms18c provides a typical 2mV/V-3 mV/V output level allowing a very easy signal conditioning.

▣ Scale 1:1 ▣

RoHS 2
Compliant

- ❖ **Large volume**, High performance, **Low cost O.E.M.** applications
- ❖ **Wide pressure measuring range**, up to 600 bar
- ❖ **Direct contact with aggressive media**
- ❖ **Easy integration on board industrial machines and equipments**

◆ **Main Applications** : Pneumatic, hydraulic, medical equipments, air compressors, refrigeration systems, domestic appliances, battery powered instruments ...

Mechanical specification :

MODEL	Rated Range (bar)	Burst Pressure (bar)	Full Scale Output Signal (mV/V)	
			Min.	Max.
• ms18c – 2	0...2	5	1.6	4.2
• ms18c – 5	0...5	12.5	1.6	4.2
• ms18c – 10	0...10	25	2.3	4.7
• ms18c – 20	0...20	50	2.4	4.8
• ms18c – 30	0...30	60	2.9	4.9
• ms18c – 50	0...50	125	2.4	4.4
• ms18c – 100	0...100	200	2.0	3.6
• ms18c – 200	0...200	400	1.6	2.8
• ms18c – 400	0...400	600	1.6	2.8
• ms18c – 600	0...600	800	1.6	2.8

Combined Error (Non-Linearity + Hysteresis)¹ $\leq \pm 0.3\%$ FS [Terminal based] for all the ranges except 2 bar
 $\leq \pm 0.5\%$ FS [Terminal based] for 2 bar range

Non-Repeatability¹ $\leq \pm 0.1\%$ FS

(★) Except hydrofluoric acid ¹According to IEC 61298-2

Specification subject to change without prior notice Specification subject to change without prior notice

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(Continued)

Electrical specification :

- | | |
|--|---|
| • Maximum excitation voltage | 30 Vdc (10 Vdc typ.) |
| • Bridge Impedance | 11 KΩ ± 30% |
| • Initial zero unbalance | ≤ ± 0.2 mV/V |
| • Dielectric strength | > 2 KV |
| • Zero point Long Term Stability @ 20 °C | ± 0.2% FSO, typ. (not cumulative versus time) |

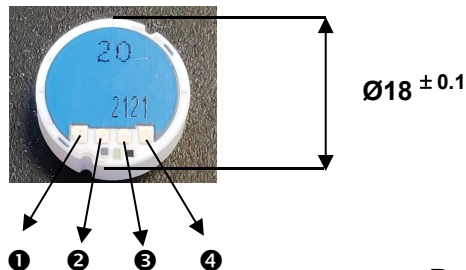
Environmental specification :

- | | |
|--|--|
| • Material in contact with fluid | Alumina Al ₂ O ₃ – 96% |
| • Operating Temperature Range | - 40°C up to + 135°C |
| • Storage Temperature Range | - 50°C up to + 150°C |
| • Residual Temperature Effects
(Zero & Sensitivity) | ≤ ± 0.04% FS/°C [0°C-85°C]
≤ ± 0.05% FS/°C [-40°C-0°C]/[85°C-135°C] |
| • Sensor Weight | < 7 g |
| • Humidity range | < 95% RH (no condensation) ** |

** additional coating available on request

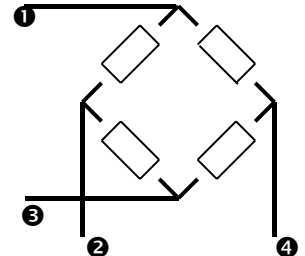
Dimensions

(mm) : Height =
6.35 ± 0.05



Electrical Wiring :

- ❶ : + Excitation
- ❷ : - Output
- ❸ : - Excitation
- ❹ : + Output



Remark: Other electrical connection upon request

❶ to ❹ = Printed tinned pads
 or 4 male pins for electrical connection



Upon request:
Brass Mounting Kit for sensor test
 (Standard thread: 1/4 BSP male)

◆ **Ordering information: ms18c – xxx – x**

Range (in bar) _____ ↑
 Electrical Connection _____ ↑
 0 = Tinned pads
 1 = Male pins

*Examples :
 ms18c – 020 - 0 → Sensor 20 bar without male pins
 ms18c – 100 - 1 → Sensor 100 bar with male pins

