

DOWNHOLE Gauges



Description

Downhole Gauges provide accurate pressure and temperature measurements in a compact design built to withstand the harshest downhole environments. Built from the latest corrosion-resistant alloys, and using high accuracy quartz, MEMs and piezo transducers with welded assemblies, these gauges are suitable for all downhole monitoring applications.

Applications

- Drill stem testing
- Build-up analysis
- Perforations
- Reservoir evaluation
- Well monitoring
- Gradient logging
- Water injection
- Flow assurance

Downhole Gauges

Specifications

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	4000AG	4000AD	4000AA
	QUARTZ	MEMS	PIEZO
MAX EXTERNAL PRESSURE	Must not exceed sensor range	Must not exceed sensor range	Must not exceed sensor range or 25 ksi max
SENSOR RANGE	4 options from 10k to 25k psi	4 options: 5, 10, 15, 20kpsi	8 options from 0.75 ksi to 25 ksi
SENSOR TYPE	Quartz resonator	MEMS	Piezo-resistive
ACCURACY	Pressure: $\pm 0.015\%$ FSO Temperature: $\pm 0.15^{\circ}\text{C}$	Pressure: $\pm 0.01\%$ FSO Temperature: $\pm 0.001^{\circ}\text{C}$	Pressure: $\pm 0.03\%$ FSO Temperature: $\pm 0.25^{\circ}\text{C}$
DRIFT	Pressure: 0.02% FSO per year Temperature: 0.1 $^{\circ}\text{C}$ per year	Pressure: 3 psi per year Temperature: 0.1 $^{\circ}\text{C}$ per year	Pressure: 3 psi per year Temperature: 0.1 $^{\circ}\text{C}$ per year
RESOLUTION	0.00006% FSO	0.00005% FSO	0.0003% FSO
MAX TEMPERATURE RANGE	Must not exceed sensor range	Must not exceed range	Must not exceed range or 177 $^{\circ}\text{C}$
BATTERY TYPE	2 AA or 4 AA, Lithium	1 AA Lithium	1AA or 2 AA Lithium
OPERATING VOLTAGE	3.2 to 3.9 V	3.2 to 3.9 V	3.2 to 3.9 V
BATTERY LIFE	upto 9.9 or 19 days	upto 120 days	upto 75 days
SAMPLING INTERVAL	0.1 second to 1 hour	0.008 seconds to 2 minutes	0.1, 1s to 24 hour Trigger Modes: Time delay, Pres, Temp
CAPACITY	1 or 2,000,000 records	5,600,000 records	1 or 4,000,000 records
RECORD CONTENTS	Time, pressure, temperature	Time, pressure, temperature	Time, pressure, temperature, battery voltage
MATERIAL	Inconel 718 & Hastelloy C-276	Inconel 718	Inconel 718
SERVICE	Standard and H2S	Standard and H2S	Standard and H2S