



# Performance Specifications

All Downhole Digital Models (DXB, DMB, etc.)

## Pressure Performance

Pressure (kpsi) -YY	05	10	16	20	25	30	35
<b>Sensor</b>	Thickness Shear Mode Quartz Resonator						
Pressure Range <sup>1</sup> (psia / bar)	0 to 5,000 / 0 to 344	0 to 10,000 / 0 to 690	0 to 16,000 / 0 to 1,100	0 to 20,000 / 0 to 1,380	0 to 25,000 / 0 to 1,725	0 to 30,000 / 0 to 2,070	0 to 35,000 / 0 to 2,415
Available Calibration Temperature Ranges (°C)	25 to 150	25 to 150	25 to 150, 177, 200	25 to 150, 177, 200, 225	25 to 177, 200, 225	25 to 177, 200, 225	25 to 177, 200
Accuracy <sup>2</sup> (% FS) 25 to 150, 177, or 200°C	0.02	0.015	0.02	0.02	0.02	0.025	0.03
Typical Accuracy (% FS) 25 to 150, 177, or 200°C	0.015	0.012	0.015	0.015	0.015	0.02	0.025
Accuracy <sup>2</sup> (% FS) 25 to 225°C (special cal)	0.04	0.025	0.025	0.025	0.03	0.035	-
Achievable Resolution <sup>3</sup> (psi * sec)	< 0.006	< 0.006	< 0.008	< 0.008	< 0.010	< 0.010	< 0.010
Repeatability (% FS)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Nominal Sensitivity (counts / psi)	1700	1700	1500	1500	1300	1300	1300
Nominal Counts Range	6x10 <sup>6</sup> to 6x10 <sup>7</sup>	6x10 <sup>6</sup> to 6x10 <sup>7</sup>	6x10 <sup>6</sup> to 6x10 <sup>7</sup>	6x10 <sup>6</sup> to 6x10 <sup>7</sup>	6x10 <sup>6</sup> to 6x10 <sup>7</sup>	6x10 <sup>6</sup> to 6x10 <sup>7</sup>	6x10 <sup>6</sup> to 6x10 <sup>7</sup>
Response Time to FS Step (for 99.5% FS)	< 1 sec	< 1 sec	< 1 sec	< 1 sec	< 1 sec	< 1 sec	< 1 sec
Gravity / Orientation Effect	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Acceleration Sensitivity (psi / g - any axis)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Drift at 14 psi and 25°C (% FS / year)	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Drift at Max. Pressure and Temperature (% FS / year) <sup>4</sup>	0.02	0.02	0.02	0.02	0.02	0.025	0.03

## Temperature Performance

Temperature (°C) -ZZZ	C85	150	177	200	225
<b>Sensor</b>	Thickness Shear Mode Quartz Resonator				
Calibrated Temperature Range (°C / °F)	-40 to 85 / -40 to 185	25 to 150 / 77 to 302	25 to 177 / 77 to 350	25 to 200 / 77 to 392	25 to 225 / 77 to 437
Accuracy (°C)	0.5	0.5	0.5	0.5	0.5
Typical Accuracy (°C)	0.15	0.15	0.15	0.15	0.2
Achievable Resolution <sup>3</sup> (°C / sec)	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Repeatability (°C)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Average Sensitivity (counts / °C)	83000	107000	107000	107000	107000
Nominal Counts Range	6x10 <sup>6</sup> to 6x10 <sup>7</sup>	6x10 <sup>6</sup> to 6x10 <sup>7</sup>	6x10 <sup>6</sup> to 6x10 <sup>7</sup>	6x10 <sup>6</sup> to 6x10 <sup>7</sup>	6x10 <sup>6</sup> to 6x10 <sup>7</sup>
Drift at 177°C (°C / year)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

### Notes

- Units calibrated with a bellows meet accuracy specifications from 200 psi to FS. Below 200 psi, non-linear bellows effects may increase ambient pressure readings to 0.04% FS. Operating range is from 0 to FS.
- Accuracy is the combined effects of repeatability, hysteresis, and corrected linearity over the calibrated temperature range. Stated accuracy does not include the deadweight tester error, which is 0.01% of reading. Some transducers require fourth- or fifth-order coefficients to satisfy accuracy specifications. Consult factory for details.
- Resolution scales inversely with gate time (sample interval). Example: If at 1 second the resolution is 0.01 psi, a 2 second gate time will result in 0.005 psi resolution. Conversely, a .01 second gate time would result in 0.1 psi resolution.
- Products may have up to three times the stated %FS drift/year at 225°C.

Part Number Coding: **AAAXXX-YY-ZZZ**  
 Family      Options      Pressure      Temperature