

# Basic Force Sensors, TBF Series, Compensated/Unamplified

**Table 4. Sensor Pressure Type**

Pressure Type	Description
Gage	Output is proportional to the difference between applied pressure and atmospheric (ambient) pressure. Reference pressure is atmospheric pressure.

**Table 5. Material Composition**

Component	Description
Cover	high temperature polyamide
Substrate	not exposed - protected by silicone gel
Sensing surface	silicone gel

**Table 6. Pressure Range Specifications for 1 bar to 10 bar**

Pressure Range Order Code (see Figure 1)	Pressure Range		Unit	Overpressure	Pressure Accuracy <sup>1</sup> (%FSS)	Offset <sup>2</sup> (mV/V)	Full Scale Span <sup>3</sup> (mV/V)			Thermal Effect on Offset <sup>4</sup> (%FSS)	Thermal Effect on Span <sup>5</sup> (%FSS)
	Pmin.	Pmax.					Min.	Nom.	Max.		
Gage											
001BG	0	1	bar	4	±0.5	±0.3	4.90	5.10	5.30	±1.0	±1.0
1.6BG	0	1.6	bar	4	±0.5	±0.3	7.84	8.15	8.48	±1.0	±1.0
2.5BG	0	2.5	bar	8	±0.5	±0.15	6.10	6.35	6.59	±1.0	±0.75
004BG	0	4	bar	10	±0.5	±0.075	5.57	5.80	6.04	±1.0	±0.75
006BG	0	6	bar	17	±0.5	±0.075	5.08	5.30	5.54	±0.75	±0.75
010BG	0	10	bar	17	±0.5	±0.075	8.47	8.85	9.22	±0.50	±0.75

<sup>1</sup>Accuracy: The maximum deviation in output from a Best Fit Straight Line (BFSL) fitted to the output measured over the pressure range at 25 °C [77 °F]. Includes all errors due to pressure non-linearity, pressure hysteresis, and non-repeatability.

<sup>2</sup>Offset: The output signal obtained when the reference pressure is applied to all available pressure ports. Also known as “null” or “zero”.

<sup>3</sup>Full Scale Span: The algebraic difference between the output signal measured at the maximum and minimum limits of the pressure range (see Figure 1).

<sup>4</sup>Thermal effect on offset: The deviation in offset due to changes in temperature over the compensated temperature range, relative to offset measured at 25 °C.

<sup>5</sup>Thermal effect on span: The deviation in full scale span due to changes in temperature over the compensated temperature range, relative to full scale span measured at 25 °C.

# Basic Force Sensors, TBF Series, Compensated/Unamplified

Table 7. Pressure Range Specifications for 100 kPa to 1 MPa

Pressure Range Order Code (see Figure 1)	Pressure Range		Unit	Overpressure	Pressure Accuracy <sup>1</sup> (%FSS)	Offset <sup>2</sup> (mV/V)	Full Scale Span <sup>3</sup> (mV/V)			Thermal Effect on Offset <sup>4</sup> (%FSS) 0 °C to 50 °C	Thermal Effect on Span <sup>5</sup> (%FSS) 0 °C to 50 °C
	Pmin.	Pmax.					Min.	Nom.	Max.		
Gage											
100KG	0	100	kPa	400	±0.5	±0.3	4.90	5.10	5.30	±1.0	±1.0
160KG	0	160	kPa	400	±0.5	±0.3	7.84	8.15	8.48	±1.0	±1.0
250KG	0	250	kPa	800	±0.5	±0.15	6.10	6.35	6.59	±1.0	±0.75
400KG	0	400	kPa	1000	±0.5	±0.075	5.57	5.80	6.04	±1.0	±0.75
600KG	0	600	kPa	1700	±0.5	±0.075	5.08	5.30	5.54	±0.75	±0.75
001GG	0	1	MPa	1.70	±0.5	±0.075	8.47	8.85	9.22	±0.50	±0.75

<sup>1</sup>Accuracy: The maximum deviation in output from a Best Fit Straight Line (BFSL) fitted to the output measured over the pressure range at 25 °C [77 °F]. Includes all errors due to pressure non-linearity, pressure hysteresis, and non-repeatability.

<sup>2</sup>Offset: The output signal obtained when the reference pressure is applied to all available pressure ports. Also known as “null” or “zero”.

<sup>3</sup>Full Scale Span: The algebraic difference between the output signal measured at the maximum and minimum limits of the pressure range (see Figure 1).

<sup>4</sup>Thermal effect on offset: The deviation in offset due to changes in temperature over the compensated temperature range, relative to offset measured at 25 °C.

<sup>5</sup>Thermal effect on span: The deviation in full scale span due to changes in temperature over the compensated temperature range, relative to full scale span measured at 25 °C.

Table 8. Pressure Range Specifications for 15 psi to 150 psi

Pressure Range Order Code (see Figure 1)	Pressure Range		Unit	Overpressure	Pressure Accuracy <sup>1</sup> (%FSS)	Offset <sup>2</sup> (mV/V)	Full Scale Span <sup>3</sup> (mV/V)			Thermal Effect on Offset <sup>4</sup> (%FSS) 0 °C to 50 °C	Thermal Effect on Span <sup>5</sup> (%FSS) 0 °C to 50 °C
	Pmin.	Pmax.					Min.	Nom.	Max.		
Gage											
015PG	0	15	psi	60	±0.5	±0.3	5.06	5.25	5.49	±1.0	±1.0
030PG	0	30	psi	115	±0.5	±0.15	5.05	5.25	5.45	±1.0	±0.75
060PG	0	60	psi	145	±0.5	±0.075	5.76	6.00	6.24	±1.0	±0.75
100PG	0	100	psi	245	±0.5	±0.075	5.83	6.10	6.36	±0.75	±0.75
150PG	0	150	psi	245	±0.5	±0.075	8.65	9.15	9.55	±0.50	±0.75

<sup>1</sup>Accuracy: The maximum deviation in output from a Best Fit Straight Line (BFSL) fitted to the output measured over the pressure range at 25 °C [77 °F]. Includes all errors due to pressure non-linearity, pressure hysteresis, and non-repeatability.

<sup>2</sup>Offset: The output signal obtained when the reference pressure is applied to all available pressure ports. Also known as “null” or “zero”.

<sup>3</sup>Full Scale Span: The algebraic difference between the output signal measured at the maximum and minimum limits of the pressure range (see Figure 1).

<sup>4</sup>Thermal effect on offset: The deviation in offset due to changes in temperature over the compensated temperature range, relative to offset measured at 25 °C.

<sup>5</sup>Thermal effect on span: The deviation in full scale span due to changes in temperature over the compensated temperature range, relative to full scale span measured at 25 °C.