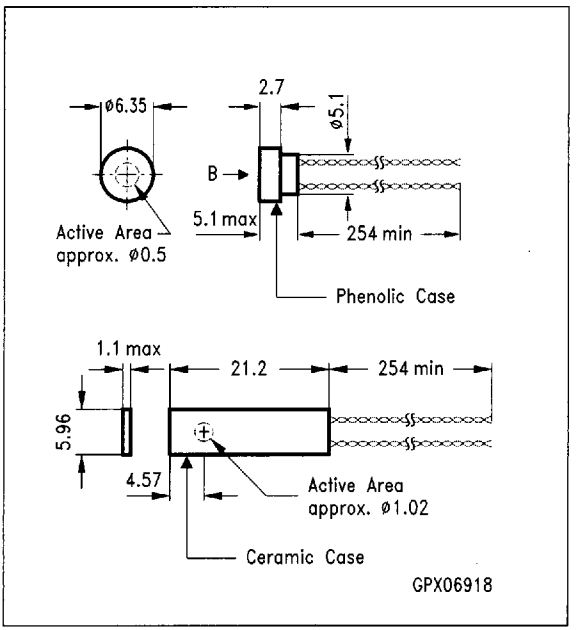
Features

- High linearity
- Cryogenic operation (1.5 to 350 °K)
- Wide dynamic range



Dimensions in mm

Type	Ordering Code
BHT-900	on request

F.W. Bell 900 series Hall sensors are high-performance units providing high linearity and broad field and temperature ranges for a wide variety of magnetic field measurements. All units in the series are encapsulated in rugged, epoxy-sealed cases. A room temperature linearity error curve from −30 to +30 kG is supplied, indicating optimum operating conditions for each device. The models 900 and 921 are not calibrated above 30 kG.

Electrical specifications

Type	BHT-900	BHT-910	BHT-921	Unit
Nominal control current, I_{cn}	100	100	100	mA
Maximum continuous control current, I_{cmos} (in 25 °C static air)	300	300	300	mA
Magnetic sensitivity, γB, I_c = 100 mA	0.8 ± 30%	0.8 ± 30%	0.8 ± 30%	mV/kG
Typical load required for proper linearity	500	50 to 500	500	Ω
Linearity error (I_c = 100 mA) −30 to +150 kG	± 1.0 (max.)	± 1.0 (max.)	± 1.0 (max.)	%
Linearity error (I_c = 100 mA) −150 to +150 kG	± 1.5 (max.)	–	± 2.0 (max.)	%
Operating temperature range	− 40 to + 100	− 40 to + 100	− 269 to + 100	°C
Mean temperature coefficient of Hall voltage β_T	± 50*	± 50*	± 100*	ppm/°C
Mean temperature coefficient of resistive residual voltage D_T	± 0.4*	± 0.4*	± 0.4*	µV/°C
Mean temperature coefficient of resistance α_T	± 0.15*	± 0.15*	± 0.6*	%/°C
Resistive residual voltage V_m, (I_c = 100 mA)	50 (max.)	50 (max.)	200 (max.)	µV
Input resistance in zero field, R_{in} (including leads)	1.0*	1.0*	1.0*	Ω
Output resistance in zero field, R_{out} (including leads)	1.0*	1.0*	1.0*	Ω

* Approximate value. Specifications may change without notice.

Type	BHA-900	BHA-910	BHA-921	Unit
Nominal control current, I_{cn}	100	100	100	mA
Maximum continuous control current, I_{cmos} (in 25 °C static air)	300	300	300	mA
Magnetic sensitivity, γB, I_c = 100 mA	0.8 ± 30%	0.8 ± 30%	0.8 ± 30%	mV/kG
Typical load required for proper linearity	500	50 to 500	500	Ω
Linearity error (I_c = 100 mA) −30 to +150 kG	± 1.0 (max.)	± 0.25 (max.)	± 1.0 (max.)	%
Linearity error (I_c = 100 mA) −150 to +150 kG	± 1.5 (max.)	–	± 2.0 (max.)	%
Operating temperature range	−40 to + 100	−40 to + 100	−269 to + 100	°C
Mean temperature coefficient of Hall voltage β_T	± 50*	± 50*	± 100*	ppm/°C
Mean temperature coefficient of resistive residual voltage D_T	± 0.4*	± 0.4*	± 0.4*	µV/°C
Mean temperature coefficient of resistance α_T	± 0.15*	± 0.15*	± 0.6*	%/°C
Resistive residual voltage V_m, (I_c = 100 mA)	50 (max.)	50 (max.)	200 (max.)	µV
Input resistance in zero field, R_{in} (including leads)	1.0*	1.0*	1.0*	Ω*
Output resistance in zero field, R_{out} (including leads)	1.0*	1.0*	1.0*	Ω*

* Approximate value. Specifications may change without notice.