

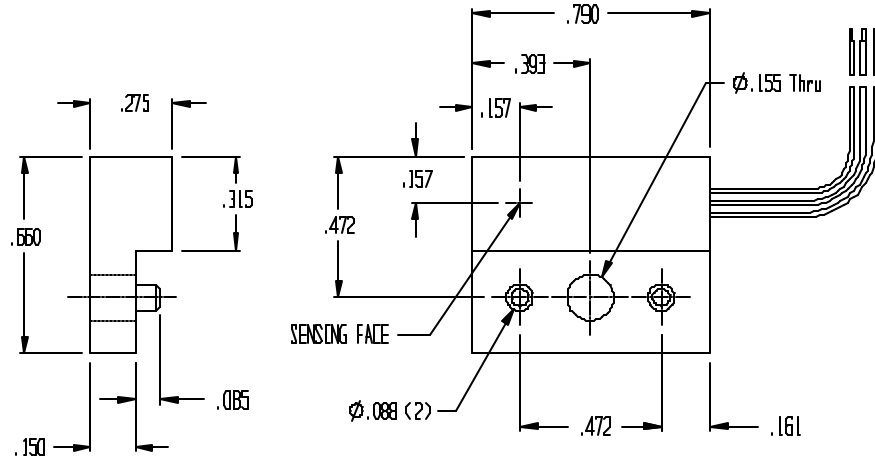


**PHOENIX AMERICA INC.**

4717 CLUBVIEW DRIVE  
FORT WAYNE, IN 46804

# P1200

## ZERO SPEED SENSOR, MAGNET ACTUATED



### Sensor Description:

The P1000 Series sensor is a non-contact, solid state device that is magnetically actuated for a variety of speed applications. The P1200 Series sensor is produced to a tight magnetic tolerance around the zero Gauss level to provide a 50% duty cycle over the operating full frequency range. With the additional advantage of low hysteresis, this device is ideal for operation with high-density multi-pole magnet target wheels and large air gap applications, along with providing the position repeatability needs for motor commutation applications. It is capable of reading speeds from zero to 100 kHz.

### Features:

- Digital Output Signal
- 4-24 VDC Operation Range
- Current Sinking Output
- 20ma Continuous Operation
- Reverse Polarity Protection
- 0 to 100 kHz Operation
- Temperature Compensated
- Operation from  $-40^{\circ}\text{C}$  to  $125^{\circ}\text{C}$
- Rugged, thermoplastic housing

### PART NUMBER

P1200

### SENSOR DESCRIPTION

22 AWG leads, 36" long

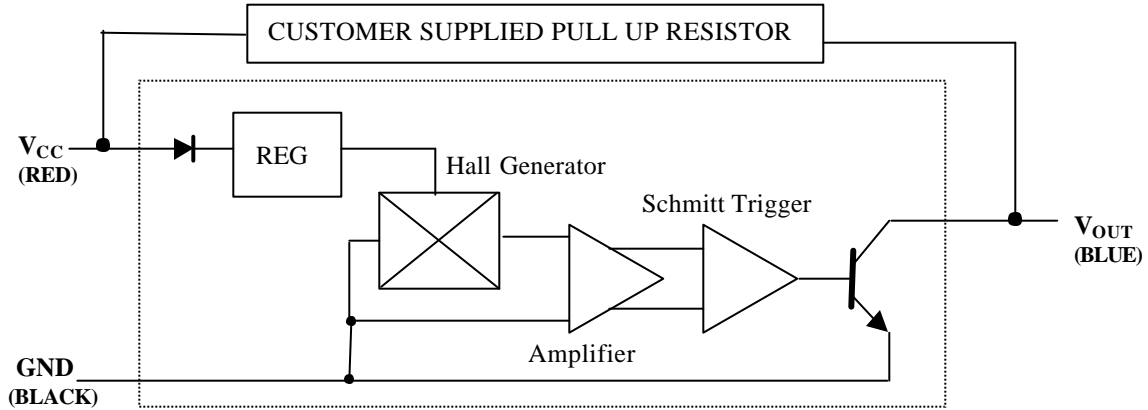
(Contact the factory for other options)



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**Functional Block Diagram**



NOTE: A pull-up resistor is required on the open collector output to establish a quiescent voltage level. The pull-up resistor also provides faster rise times and improves noise immunity. Contact the factory for application assistance.

**Magnetic Characteristics:** ( $V_{CC} = 4.5$  to 24 VDC @ 25°C)

Characteristics	Symbol	Limits			
		Min.	Typ.	Max.	Units
Operating Point	$B_{OP}$	15	50	75	Gauss
Release Point	$B_{RP}$	-75	-50	-15	Gauss
Hysteresis	$B_{HYS}$	30	100	150	Gauss
Maximum Field Exposure	$B_{MAX}$	-800		800	Gauss
Active Element Depth	$D_P$			0.021	Inch

**Electrical Characteristics:** ( $T = -40$  to 125 °C)

Characteristics	Symbol	Test Condition	Limits			
			Min.	Typ.	Max.	Units
Supply Voltage	$V_{CC}$	Operating	4.5		24	VDC
Supply Current	$I_S$	$V_{CC} = 4.5V$ ; Output Open		4.7	8.0	mA
Output Current	$I_{OUT}$	$V_{CC} = 4.5V$ ; Output Open			20	mA
Output Saturation Voltage	$V_{OUT(SAT)}$	$B > B_{OP}$ ; $I_{OUT} = 20ma$		150	400	mV
Output Leakage Current	$I_{OFF}$	$B < B_{RP}$ ; $V_{OUT} = 24V$		4.7	8.0	uA
Rise/Fall Time	$t_r / t_f$	$R_L = 1.2k$ ; $C_L < 33pF$			1	us