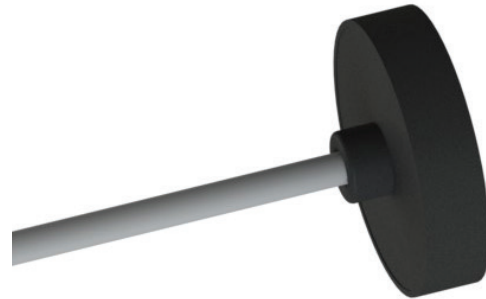


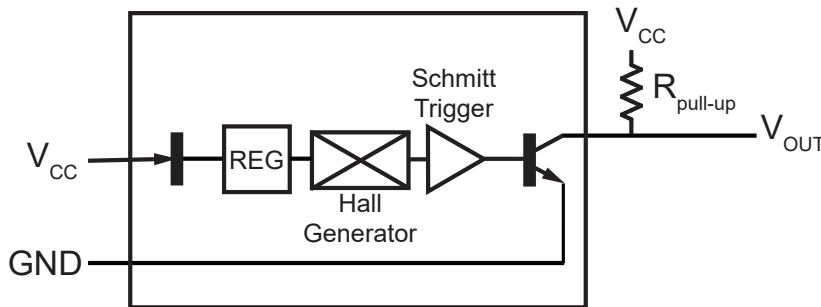
Features and Benefits

- Non-contact, solid state device
- Tight magnetic tolerance around zero Gauss level provides 50% duty cycle
- Reads speeds 0 to 100 kHz
- Digital output signal
- 4 to 24 VDC operation range
- Current sinking output
- 20 mA continuous operation
- Reverse polarity protection
- Temperature compensated
- Operates from -40°C to 125°C
- Rugged thermoplastic housing



Sensor

Electrical Circuit



Output channels require customer supplied pull-up resistors unless internal pull-up option is selected. See Table 1.1 for recommended resistor values.

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.

Pull-Up Resistance Chart for Selected Sink Currents

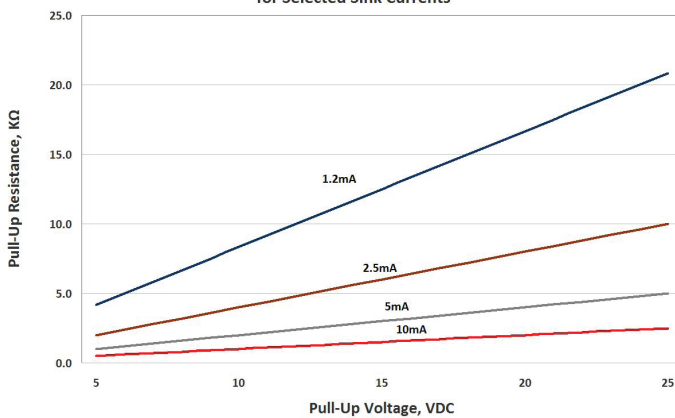


Table 1.1

Recommended Pull-Up Resistor Values			
Current, I _{sink}	Supply Voltage		
	5	12	24
1.2 mA	4.3K	10.0K	20.0K
2.5 mA	2.0K	4.7K	10.0K
5 mA	1.0K	2.4K	4.7K
10 mA	510Ω	1.2K	2.4K

I_{sink} is application dependent. It is recommended to use the lowest possible sink current when selecting a pull-up resistor.

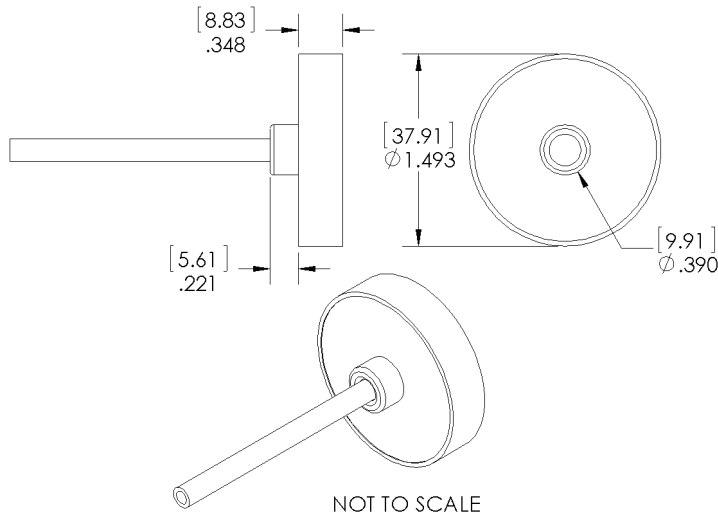
Theoretical Pull-Up Resistor Calculation: $R_{pullup} = \frac{V_{supply}}{I_{sink}}$

Resistance values based on closest standard 5% resistor values

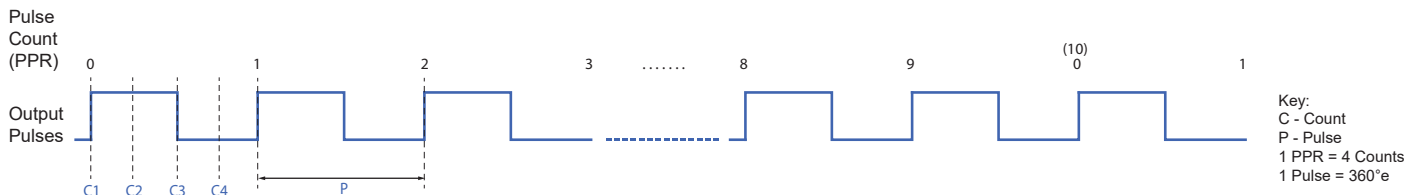
Absolute Maximum I_{sink} = 20mA

4.7 K pull-up is available as a standard option. If an alternative pull-up value is preferred, contact sales@phoenixamerica.com.

Physical Outline



Output Waveforms



Absolute Maximum Ratings

Table 2.1

Characteristic	Symbol	Rating	Units
Forward Supply Voltage	V_{CC}	30	V
Reverse Supply Voltage	V_{RCC}	-30	V
Output Off Voltage	V_{OUT}	30	V
Reverse Output Voltage	V_{ROUT}	-0.5	V
Output Current Sink	$I_{OUTSINK}$	25	mA
Operating Temperature	T_A	-40 - 125	°C
Storage Temperature	T_S	-40 - 150	°C

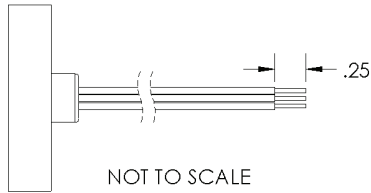
Electrical Characteristics

Table 2.2

Characteristic	Symbol	Test Conditions	Min.	Typ. ¹	Max.	Unit ²
Forward Supply Voltage	V_{CC}	Operating, $T_J < 165\text{ }^\circ\text{C}$	3.8	-	24	V
Power-On Time	t_{PO}	$V_{CC} > 3.8\text{V}$	-	-	4	μs
Supply Current	$I_{CC(ON)}$	$B > B_{OP}$, $V_{CC} = 12\text{V}$	-	3.8	7.5	mA
	$I_{CC(OFF)}$	$B < B_{RP}$, $V_{CC} = 12\text{V}$	-	3.5	7.5	mA
Reverse Battery Current	I_{RCC}	$V_{RCC} = -30\text{V}$	-	-	-10	mA

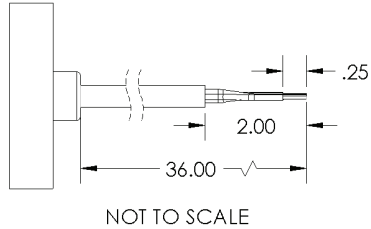
Wiring

FLYING LEADS



- 22 AWG
- PVC Insulation

CABLE



- 22 AWG
- PVC Insulation

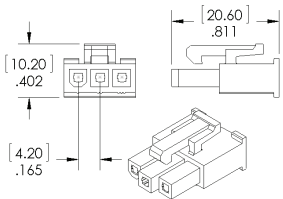
Table 3.1

Standard Wiring Color Code		
	Flying Leads	Cable
Vcc	Red	Red
Gnd	Black	Black
Output	White	White

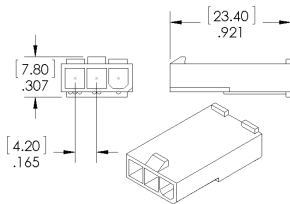
Custom lengths and insulation materials available. Contact sales@phoenixamerica.com.

Connector Options

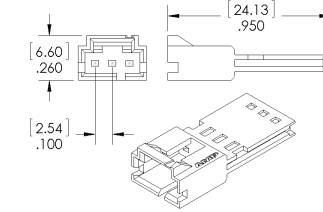
Molex Mini-Fit Jr. (Male)



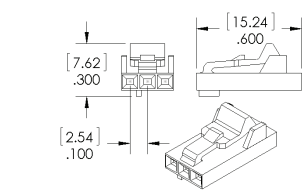
Molex Mini-Fit Jr. (Female)



TE AmpModu MTE (Male)



TE AmpModu MTE (Female)



Need a different connector? Contact sales@phoenixamerica.com.

Part Number Description

SF	C	F	B	X
Series	Output Type	Wiring	Length (Meters)	Connector
S1	C Open Collector (default) P Open Collector with Internal Pull-Up (4.7K)	F Flying Leads (default) C Cable	A .5 (19.685") B 0.914 (36") (default) C 1 (39.370") D 2 (78.740")	X None (default) A1 TE AmpModu MTE (Male) A2 TE AmpModu MTE (Female) M1 Molex Mini-Fit Jr. (Male) M2 Molex Mini-Fit Jr. (Female)

Example: SF-C-F-B-X