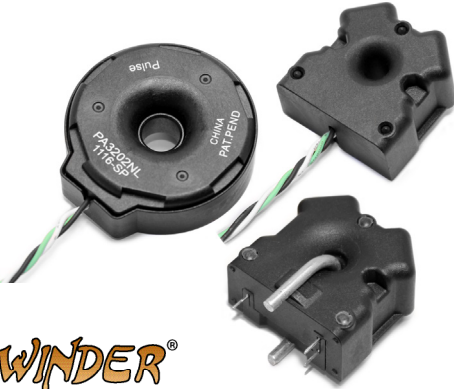


# SIDEWINDER® - CURRENT SENSOR

PA320XNL Series



- Ⓟ 50/60 Hz, Single Phase, AC Current Sensor
- Ⓟ Dynamic Range from 0.1 to 1000 Amps
- Ⓟ Meets ANSI C12.20 Accuracy Class 0.2
- Ⓟ Meets IEC 62053-21 class 1
- Ⓟ Phase error < 0.05 degree
- Ⓟ Bandwidth 500KHz
- Ⓟ Immune to external AC magnetic fields
- Ⓟ Immune to DC current & DC magnetic field
- Ⓟ Very low temperature coefficient
- Ⓟ Patent pending

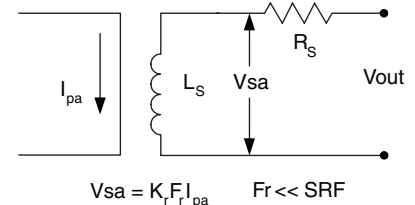
Electrical Specifications at 25°C Temp Range -40°C to 130°C							Actual Secondary Output Voltage (V <sub>sa</sub> )	
Part Number	Accuracy Class <sup>3</sup>	K <sub>r</sub> <sup>4</sup> (μΩ/Hz typ)	Pri-Sec Isolation (V min)	L <sub>s</sub> <sup>5</sup> (mH typ)	R <sub>s</sub> <sup>6</sup> (Ohms typ)	SRF <sup>7</sup> (Hz typ)	@ 50 Hz (μV/A) <sup>1</sup>	@ 60 Hz (μV/A) <sup>1</sup>
PA3202NL	0.2	8.33	6,000	1.75	57.3	160,000	416	500
PA3206NL	0.2	7.66	6000	1.14	37.6	200,000	383	460
PA3208NL	0.2	7.66	6000	1.14	37.6	200,000	383	460

EQUATIONS:  $V_{sa} = K_r F_r I_{pa}$   
 $F_r \ll SRF$

## NOTES:

- Output Voltage is proportional to the derivative (di/dt) of the input current based on the Rogowski Coil principle.
- All current and voltages assumed to be sinusoidal waveforms at F<sub>r</sub>, the constant rated frequency in Hz, measured as RMS values.
- Accuracy Class per IEC 60044-1 Table 11 where:
  - Percentage current error =  $((K_r \cdot F_r \cdot I_{pa} - V_{out}) / V_{out}) \times 100$
  - Phase displacement = the difference between the primary current (I<sub>pa</sub>) phase vector and the (secondary voltage (V<sub>out</sub>)) phase vector minus 90 degrees)
- K<sub>r</sub> = Rated transformation constant
- L<sub>s</sub> = Secondary winding inductance
- R<sub>s</sub> = Secondary winding resistance
- SRF = Self Resonate Frequency
- I<sub>pa</sub> = Actual primary current
- V<sub>sa</sub> = Actual secondary output voltage

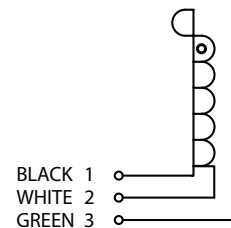
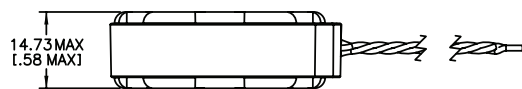
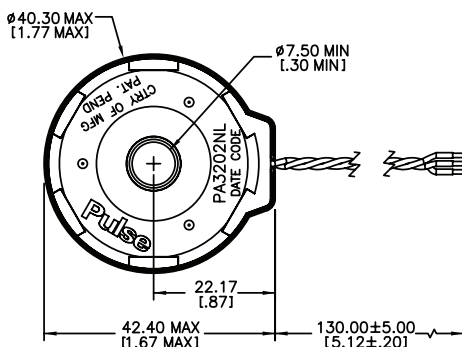
## Low Frequency Equivalent Circuit



## Mechanicals

## Schematics

### PA3202NL



# SIDEWINDER® - CURRENT SENSOR

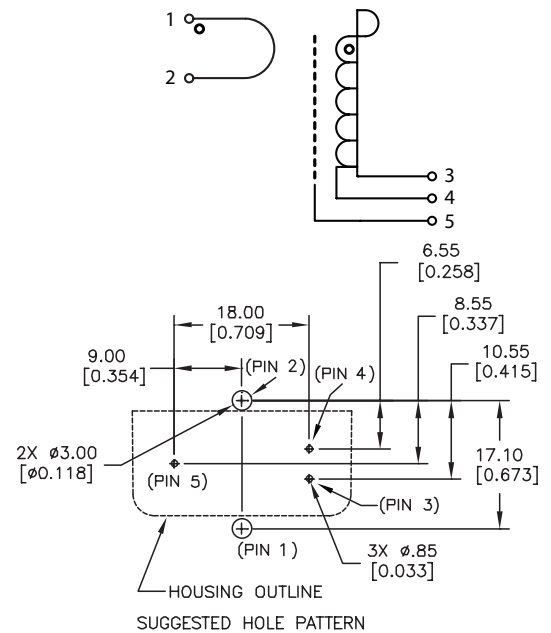
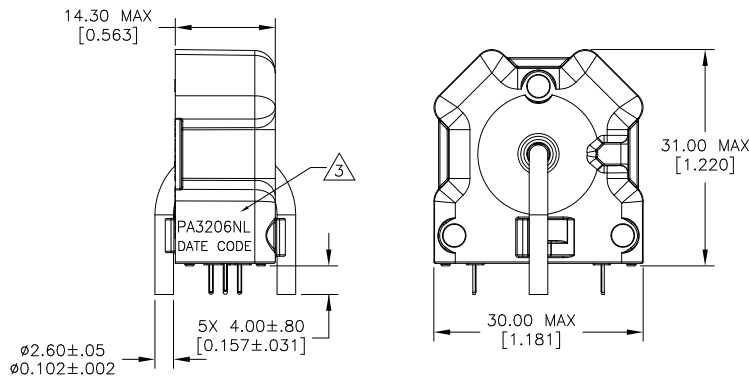
PA320XNL Series



## Mechanicals

## Schematics

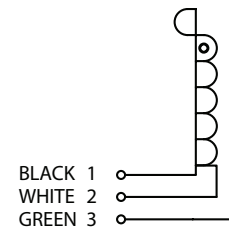
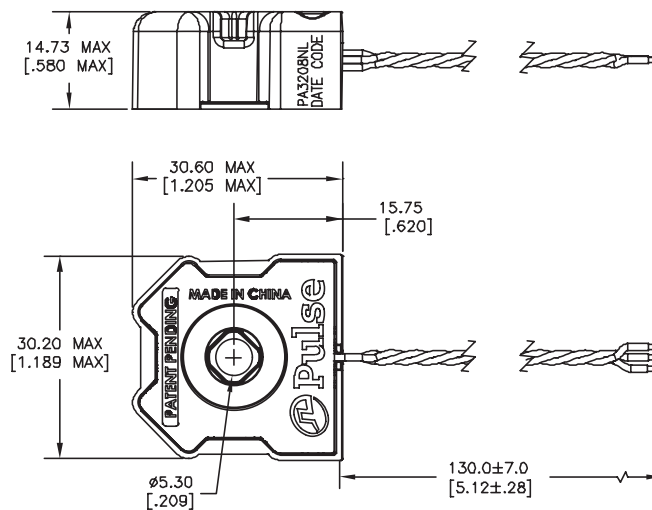
### PA3206NL



## Mechanicals

## Schematics

### PA3208NL



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