



# RL-3410 RL-3420, RL-3430 CURRENT SENSORS



These encapsulated Current Sensing coils are designed for PC board mounting and are used as a nonintrusive method of controlling, monitoring or measuring AC currents. The sensors are non-contact devices having no DC power loss resulting in no heating problems. High quality toroids are used in order to obtain optimum performance over the designated current and frequency range.

### FEATURES:

- Molded Aperture for Primary Wire(s)
- Frequency Range Up to 100kHz
- Meets VDE Specifications
- PC Board Mounting

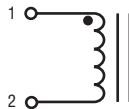
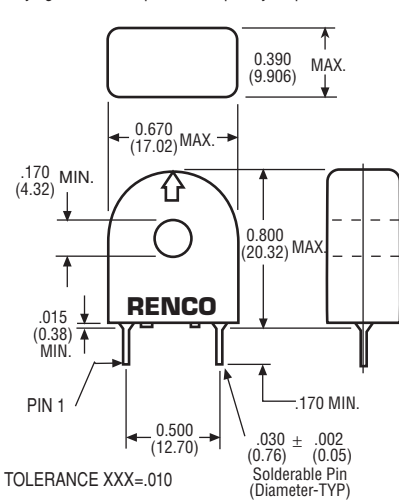
### APPLICATIONS:

- Isolated current feed-back signal in Switch Mode Power Supplies
- Motor current load/overload
- Ultra-sound current
- Isolated bi-directional current sensor with full wave bridge rectifier
- High resolution sonar current

Renco Part No.	Sensing Range (Amps)	Frequency Response* (kHz)	Secondary Turns	Secondary Inductance mH (Min.)	Secondary Inductance Test Voltage @ 15.75kHz	Secondary DCR Ohms (Max.)	Secondary Terminating Resistance Ohms** (Nom.)	Primary Unipolar Amp usec. Rating (Max.)	Primary Bipolar Amp usec. Rating (Max.)	1 Turn Primary Peak Sense Current (Amps)
RL-3410	2-10	5-25	50	5.0	0.5	0.7	50	150	300	20
RL-3420	2-14	5-50	100	20.0	1.0	1.40	100	300	600	20
RL-3430	1-35	1-100	200	80.0	2.0	4.50	200	600	1200	20

\* Outside frequency range square wave deteriorates.

\*\*Varying R affects output and frequency response.



### NOTES:

- Maximum operating temperature: 105°C.
- Maximum ratings are with a 1 turn primary and specified secondary terminating resistance.
- Amp/microsecond (A/usec) rating of primary equals Volt/microsecond (V/usec) rating of secondary when the secondary is terminated with its specified resistance. (Note: A/usec is equal to the product of a square wave pulse current, in Amps, multiplied by the current pulse width in microseconds.)
- Inductor scale factor is:  $V_{out} = 1 \text{ Volt/Amp}$  when the specified terminating resistance is used.

Dimensions: Inches (mm)



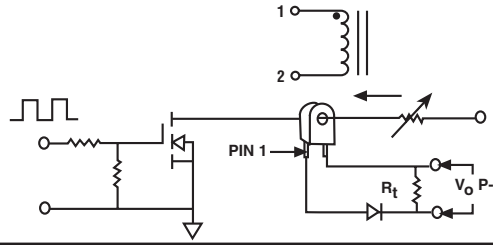
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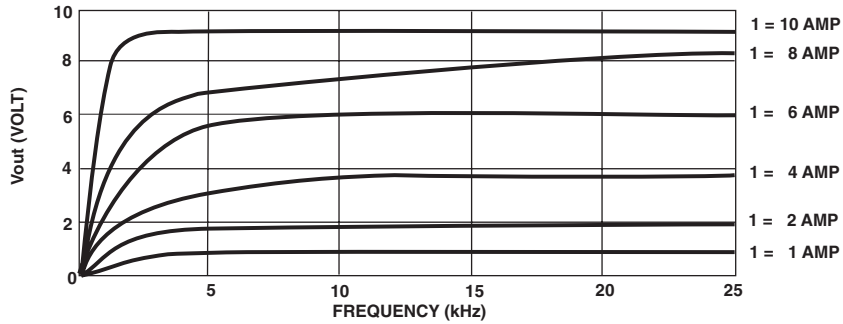
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# TEST CIRCUIT



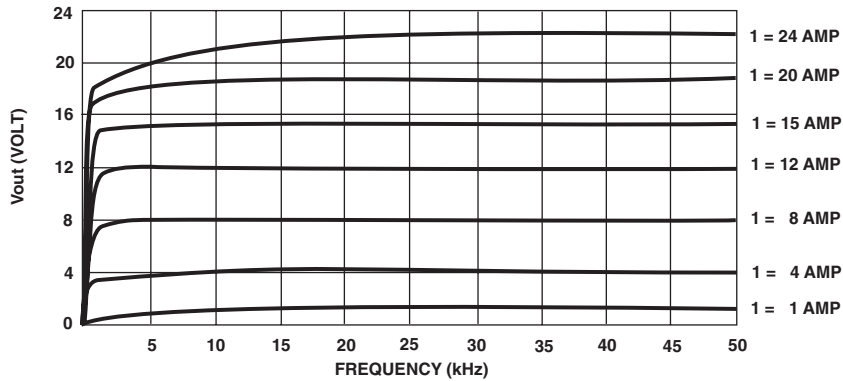
RL 3410

50 TURNS



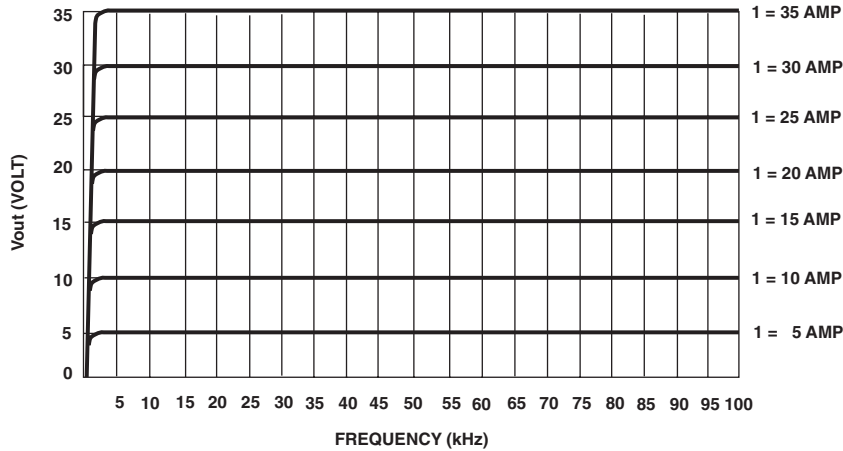
RL 3420

100 TURNS



RL 3430

200 TURNS



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