

## TSB Connectorized Snubber Circuit Boards

### Features:

- Panel Mountable
- Fully Connectorized
- Wirewound High-Temperature Ceramic Resistors
- WIMA Metal Film Capacitors

### Applications:

- Plating Rectifiers
- Battery Chargers
- Wind Turbine Controllers
- DC Drives
- Semiconverters
- UPS Systems
- Transformer Primary Controllers

#### Description

Enerpro's TSB family of snubber circuit boards provide high-quality RC snubber circuits in a convenient, connectorized, panel-mountable package. Models with one, two, three and six circuits are available. These boards provide the static power conversion industry with a rugged, reliable snubber product that reduces design time and minimizes inventory requirements.

#### Application

In SCR converters or AC controllers, a high rate-of-rise in anode-to-cathode voltage, or  $dV/dt$ , occurs when an SCR conducts or commutates. Inductive loads typically induce high peak voltages when the SCR current is interrupted. Resistor-capacitor snubber circuits limit the  $dV/dt$  across the SCRs, preventing erratic operation and device damage.

#### Available Circuits

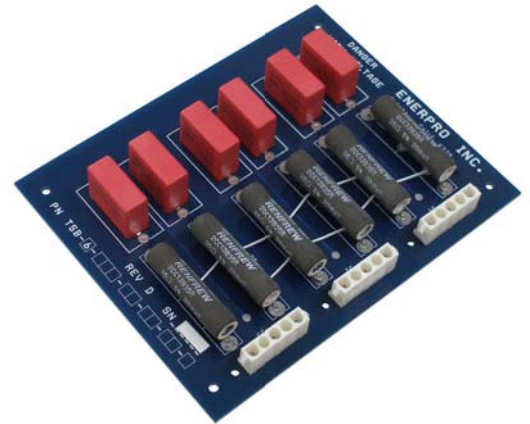
**TSB-1:** Single RC circuit for use in anti-parallel SCR AC controller applications.

**TSB-2:** Two RC circuits for use in SCR bridge rectifier circuits or other applications where two SCRs share a common connection.

**TSB-3:** Three RC circuits for three-phase AC controllers or semiconverters.

**TSB-6:** Six RC circuits provide flexibility for a variety of three-phase applications, including:

- In-line AC controllers
- Two-speed motor starters
- Reversing motor starters
- Star converters
- Six- or twelve-pulse bridge converters
- Tap changers



#### Operational Features

The TSB family utilizes WIMA brand high voltage, pulse-rated metal film capacitors exclusively for their superior performance, reliability, and service life.

Amp Universal Mate-N-Lok<sup>®</sup> connectors provide easy installation and replacement; connector tooling is identical to all other Enerpro firing and regulator board products.

Creepage distances exceed 10 mm (0.4 inches) for operation to 600 Vac as specified in UL-508.

All circuit boards are assembled at the Enerpro plant in Goleta, California and are manufactured by a UL-approved fabricator from 2.4 mm thick FR4 fire-resistant fiberglass epoxy laminate with one-ounce copper and full solder mask. All boards are protected with urethane conformal coating per MIL-1-46058, Type UR to provide excellent performance at high line voltages.

*Enerpro applications engineers are available by e-mail or fax for applications assistance.*

<b>Board Dimensions</b>		
<b>Model</b>	<b>L x W x D (mm)</b>	<b>Mounting Centers (mm)</b>
TSB-1	64 x 127 x 31	48 X 115
TSB-2	112 x 127 x 31	97 X 115
TSB-3/6	191 x 127 x 31	172 x 115
TSB-6/12	191 x 153 x 31	172 x 127

<b>Ordering Guide</b>		
<b>Parameter</b>	<b>Description</b>	<b>Code</b>
<i>Number of Snubber Circuits</i>	<b>1</b>	
	<b>2</b>	
	<b>3</b>	
	<b>6</b>	
<i>Mains Voltage</i>	Note maximum ac mains voltage	
<i>Load Type *</i>	<b>AC</b> * Note: Only indicate AC or DC if using <b>DC</b> TSB-6 Snubber Boards	
<i>Capacitor Value (uF x 100)</i>	<b>XX</b> (Indicate Capacitor Value)	
<i>Resistor Value (Ohms)</i>	<b>XX</b> (Indicate Resistor Value)	
<i>Resistor Power (Watts)</i>	<b>XX</b> (Indicate Resistor Power)	
	<b>0</b> Right-angle <b>1</b> Vertical <b>2</b> Screw-in Terminal Block (applies to TSB3HG Snubbers only)	

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