Strain Gage Installation

Strain Gages & Strain Gage Application Kits are supplied by the
Vishay Measurements Group, Inc., Raleigh, NC. Phone: (+1) 919-365-3800.
Web: http://www.Vishay.com

Strain Gage Application Kit: GAK-2-200

1. Prepare shaft surface:
   - Remove paint and other coatings; degrease as necessary.
   - Rough sand with 220 grit paper then polish with 400 grit paper.
   - Finish sanding with 400 grit paper and M-Prep Conditioner.
   - Rinse with M-Prep Conditioner.
   - Rinse with M-Prep Neutralizer and wipe dry.
2. Mark shaft surface for strain gage orientation and alignment. The strain gage should be installed flat and square to the axis of the shaft. For a straight reference line, square to the axis, wrap a piece of paper around the shaft, align the edges and then mark or etch the straight reference line onto the shaft.
3. Prepare strain gage for mounting. Part # CEA-06-250US-350 is a common torque-pattern strain gage: http://www.vishay.com/docs/11334/250us.pdf
   - Remove strain gage from package.
   - Apply cellophane tape to top side of gage. Use the tape as a “handle.”
4. Position strain gage before gluing:
   - Tape gage in place on the shaft using reference marks on shaft and gage for alignment.
   - Lift one end of tape and “hinge” back to expose bottom of gage.
   - Apply an even, thin layer of catalyst to bottom side of gage and let dry.
5. Glue strain gage to surface:
   - With the gage/tape still hinged back, apply bead of M-Bond 200 Adhesive where the tape meets the shaft surface. (M-Bond 200 is a special cyanoacrylate which has been pretested and certified for use in bonding strain gages – manufactured by Vishay Measurements Group.)
   - Using Teflon film or equivalent as a non-stick barrier between your thumb and the adhesive, press the gage/tape to shaft surface with single rolling/wiping motion of the thumb.
   - Apply thumb pressure for one minute, followed by a minimum two-minute wait before removing the cellophane tape. Bond strength increases rapidly during first five minutes.
6. Attach lead wires and protect strain gage:
   - Discard Teflon film and carefully peel back cellophane tape from the strain gage.
   - Tin with solder the solder pads of the strain gage plus the lead wires. Attach lead wires to solder pads.
   - Clean solder joints with rosin solvent.
   - For waterproofing – Apply polyurethane coating to strain gage and solder joints.
   - For mechanical protection – Cover the gage with butyl rubber or equivalent.
   - For electrical shielding – Cover the strain gage and lead wires with aluminum tape or equivalent.
   - M-Coat J from Vishay Measurements Group is a two-part polysulfide liquid polymer compound for environmental protection of strain gage installations. When fully cured, it forms a hard rubber-like covering that provides an effective barrier against water and many other fluids. The tough coating also protects installations from mechanical damage.

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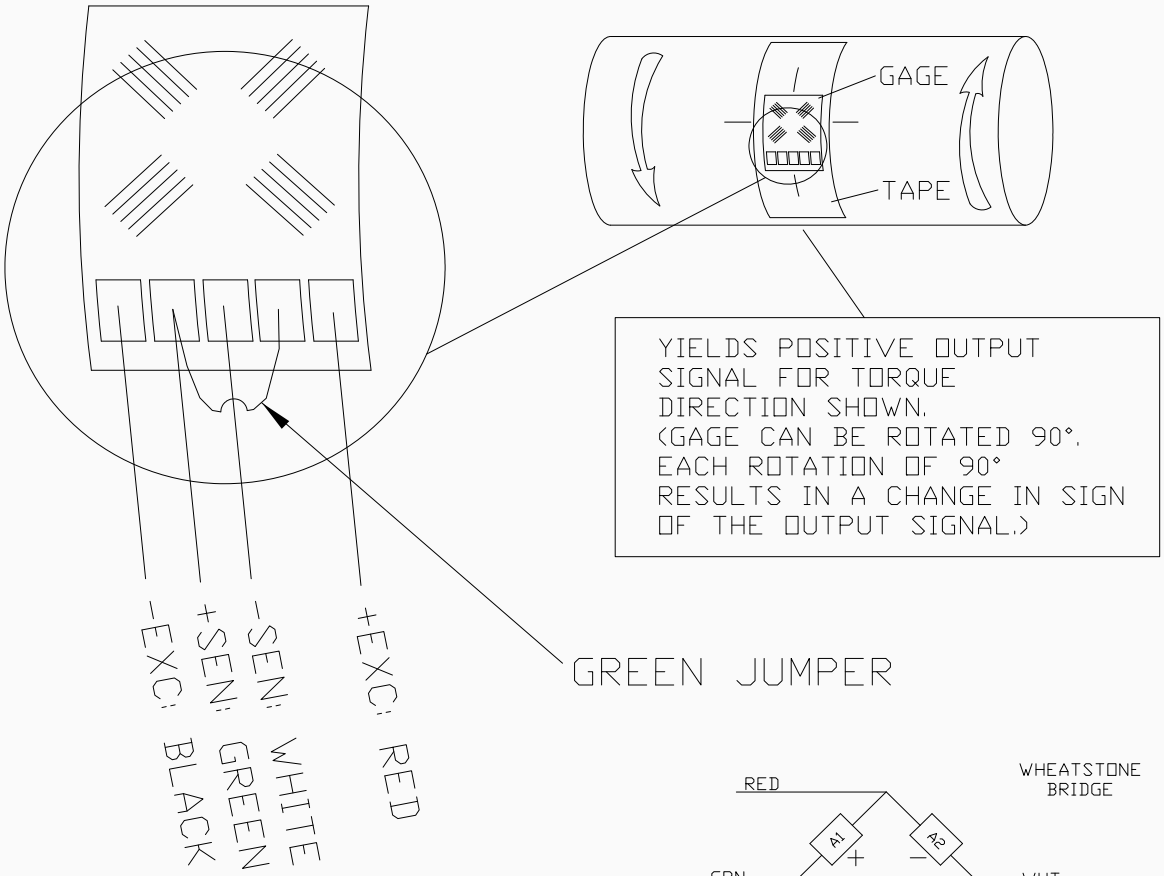
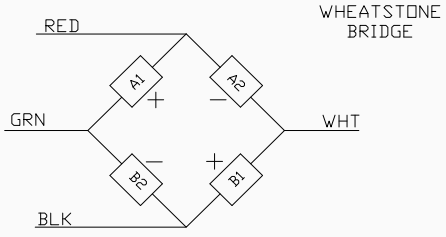
For TORQUE Measurement





STRAIN GAGE:
VISHAY MEASUREMENTS GROUP
RALEIGH, NC
PHONE: 919-365-3800
PART # CEA-06-250US-350

NOMINAL RESISTANCE VALUES
RED TO BLACK: 350 ohms
WHITE TO GREEN: 350 ohms
ALL OTHER TESTS: 262.5 ohms

REVISION: 1

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