

bf1 systems NASCAR Spring Top Hat Loadcell

The bf1systems NASCAR Spring Top Hat loadcell is a direct replacement for the top hat on the car. A range of different mechanical designs are available to suit customers specific applications and spring sizes. Features such as connector guards are available to prevent damage to connectors. They offer previously unseen levels of accuracy throughout the whole temperature range by incorporating a microprocessor controlled amplifier. The spring top hats have been specifically designed by bf1systems to work as a loadcell and offer very repeatable and accurate data that is not affected by ride height changes, spring 'wind up' or temperature changes. If a part from our standard range is not suitable then we can work with you to produce a part that suits your exact requirements.

The bf1systems intelligent amplifier measures the temperature of the strain gauges, applies a correction at each temperature step for offset and span errors in the calibration. Thereby producing an output that is far more accurate than even the best compensated gauges. This also allows all parts to have a generic calibration, which means that there is no need to enter a specific part calibration when changing loadcells. Each part is individually calibrated in a computer-controlled oven over a full load and temperature range and each part retains its own unique calibration table.

This part accompanies our other NASCAR specific force measurement products. Our Damper, Tie Rod, and Panhard Bar loadcells have been used for several years by a number of teams with excellent results. We are continually expanding our product range, if there is any area of force measurement that cannot currently be measured, please contact us and we will be pleased to take a look for you.

Specification

Electrical

- 7 - 18 Volt supply range
- Non-ratiometric output, supply voltage changes do not affect the output.
- Supply current <30mA
- High level 0 - 5V output, no requirement for additional strain gauge amplifiers
- Identical output for all parts, no calibration data entry for each part
- Combined non-linearity, hysteresis and repeatability <0.3% FSO
- Thermal zero shift over compensated range 0.1% FSO
- Thermal sensitivity shift over compensated range 0.2% FSO
- Internal 150Hz 2-pole low-pass Butterworth filter

Environmental

- Compensated temperature range 50°F to 260°F
- Operating temperature range 10°F to 270°F
- Sealed to IP65

