

# **COMPTROL SUPERLOADCELL**

## **GENERAL DESCRIPTION**

Comptrol Superloadcells are precision linear displacement transducers designed especially for the measurement and control of web tension on continuous strip processing lines. These extremely accurate, and reliable mechanical to electrical transducers convert the force of strip tension into a high level electrical output signal, which is directly proportional to the strip tension.

Nine standard models are available for pillow block bearing applications requiring a tension transducer with capacity ranges from 50 to 20,000 pounds. Superloadcells Conversion of most idler rolls to tension measuring rolls is easy. Superloadcells are simple to install and operate. They are unusually rugged and versatile, and incorporate many exclusive features which eliminate problems associated with strain gage and other types of tension transducers.

Superior accuracy is achieved through the use of the Superloadcell patented C-Flexure Pivot Assembly, which provides frictionless mechanical operation. There are no rubbing or moving parts, welds, joints or bearing pivots to introduce hysteresis or non-repeatability.

The rugged loadcell structure, designed for overloads of 1000%, is machined from steel, and cadmium plated. The cantilever springs and the C-flexure are heat treated for durable, maintenance free operation.

Mechanical and electrical adjustments permit Superloadcells to be calibrated to meet the requirements of each application. They may be mounted in any plane around the axis of the roll, and may be operated in either tension or compression — and at any wrap angle.

The sensitivity of most Superloadcells may be adjusted by means of a cantilever spring and clamping assembly. This permits the calibration of each pair of loadcells to meet the requirements of the specific application. These adjustments allow the tare weight (pillow block bearings and the roll) to be zeroed out, so the Superloadcells measure only the force of the strip tension. Electrical zero adjustments are available at the Superloadcell — and within the Superloadcell controls.

The primary conversion element between the mechanical force, and electrical output is a D.C. Linear Variable Differential Transformer. (LVDT) The electrical elements of the LVDT are encapsulated and sealed, and are not susceptible to shock or tampering. Reverse voltage protection, and wide range temperature compensation are provided within the LVDT. In addition, input and output circuits are isolated from each other, and from the case. This permits Superloadcells to be used in floating, or ground return systems.

The output signals from Superloadcells may be used to drive analog or digital panel meters and/or as feedback signals to adjustable drive systems.

Inherent in the design of the DC LVDT is a zero, or null position, with absolutely no deadband. The long term stability of the maintenance free LVDT gives the Comptrol Superloadcell operational characteristics, and longevity unsurpassed by other loadcells used in similar applications.