

# How The Cleveland-Kidder® Ultra Line Load Cell System Maximizes Quality & Productivity



## 40:1 Tension Range & Noise Rejection

CMC has raised the bar on transducer performance. More important, our new Cleveland-Kidder® Ultra Line Load Cell System raises the bar on your ability to increase quality and maximize productivity.

The result—you now have the most accurate web tension control system yet for processing the widest variety of materials.



Advantages Over Conventional Web Tension Designs	Why It Can Be Done	How CMC Does It
Operates over a wider tension range— 40:1. Competitive products provide tension ranges of only 8:1 or 16:1 at the very best.	Provides a higher signal output that results in better signal resolution.	① 4 Semi-Conductor Strain Gages in a full Wheatstone Bridge Transducer Design provides a higher and more stable signal. ② “Twin Beam Design” provides high mechanical gain with negligible displacement.
Ability to measure lower and lighter tensions.	Substantial and stable signal even at low tensions.	③ Latest Amplifier Technology incorporating surface mount components and thin film resistors—eliminates drift which distorts low tension measurements.
Does not react to electrical noise from AC motors, servos, relay coils, or other electrical disturbances.	Rejects electrical noise resulting in a clean and accurate output signal devoid of distortion.	④ Four-Wire Differential-Ended Technology provides common mode rejection of electrical disturbances.
Better at maintaining accurate tension measurement regardless of ambient temperature changes.	Minimum deviation of signal output due to temperature changes.	⑤ Precise Temperature Compensation Network cancels out temperature influences.

**WEB TENSION DIVISION**

# ULTRA LINE\* LOAD CELL SOLUTIONS

Cleveland-Kidder Ultra Line Load Cell Systems, consisting of load cell, amplifier and cable, provide better performance than competitive load cells by increasing the operating tension range from 8:1 to 40:1. (This means that a 50 lb. (222 N) Ultra Line Load Cell accurately measures from 1.25 lbs. (5.5 N) to 50 lbs. (222 N) of tension when used with an Ultra Line Amplifier.) Industry standard transducers currently measure tension ranges of only 8:1 to 16:1.

Ultra Line Load Cell System Solutions also provide a more accurate measurement by eliminating electrical disturbances from AC drives, servos and other high frequency devices.



In addition, they maintain accurate measurement regardless of ambient temperature changes and eliminate drift, which can distort low-tension measurements. They are also CE compliant. 

## Slim Cell Transducers



With a unique low-profile design, Ultra Line Slim Cells set the standard for either new machinery or for retrofits where space is tight. With a dust sealed, corrosion resisting, water resisting design, they are ideal for use in demanding industrial environments.

Slim Cells can be used with either rotating shafts or dead shaft rollers. They have a flat cylindrical shape, designed to reduce the required side-frame-to-side-frame width of the machine.



## UPB Washdown-Duty Load Cells

The Ultra Line UPB Washdown-Duty Load Cell has a completely sealed corrosion-resisting design, making it ideal for use in demanding industrial environments. The Ultra Line UPB Washdown-Duty LC can be mounted at any angle and its web force direction is not restricted to being either parallel or perpendicular to the UPB top surface (common with other load cell designs).

## Cartridge-Style Load Cells



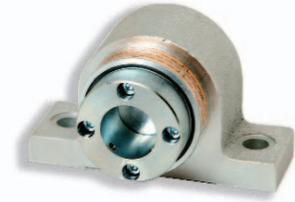
Ultra Line Cartridge-Style Load Cells are modular in design, providing the greatest degree of installation and application flexibility. With heavy duty construction and a low maintenance design, they reduce the necessity of machine modifications while minimizing downtime. They are ideally suited for lightweight material and thin webs where tight control of tension is required to prevent stretching or wrinkling of the material.

## Ultra Line Amplifiers



Ultra Line Load Cell Amplifiers are designed to interface with a wide variety of controls for monitoring and measuring web tension. Two versions are available—the basic amplifier or an electrically-isolated amplifier. Ultra Line Amplifiers are low-profile and designed so that calibration adjustments and terminal strips are conveniently accessible from the front. Pluggable connections are removable for easy wiring. Essential specifications and a wiring schematic are located on the side, eliminating the need for a manual.

## CLT Transducers



With the CLT Cantilevered Transducer, users can specify the fixed shaft roller of their choice—any length, diameter and material. It will accommodate almost any roller type, while eliminating the expense of an integrated cantilevered roller. Because only the idler roller needs to be replaced, users will be able to save on maintenance costs. In addition, the Cantilevered Transducer CLT eliminates the need to custom-design transducers for non-standard applications.

## Special Ultra Line Cabling



Ultra Line Load Cell Solutions provide a common mode of rejection to electrical influences, including AC motors, servo controls, relay coils, and other electrical disturbances. At CMC, we accomplish this by utilizing special four-wire differential-ended cabling and our specially designed Ultra Line Amplifier. In addition, Ultra Line Cabling includes M12 Quick-Connect Sealed 4-Pin Connectors.

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