Overview

FMS Tension Control Force Sensors

- **Highest sensitivity for precise measurement**
  Strain gauges in a full Wheatstone bridge circuit, reliable technology with compensation of ambient temperature changes

- **Perfect fit for each installation and application**
  Various series, sizes and nominal forces for a wide range of material tension

- **Long lifetime, maintenance-free operation**
  Sensor body and housing of stainless steel or high strength aluminum; mechanical overload protection, robust design with high repeatability

- **Options for demanding applications**
  For increased temperatures, aggressive media, special installation requirements, vacuum and many more

**FMS Force Sensors**

FMS manufactures force sensors since more than 25 years. Our innovations have created a second to none portfolio which enjoys one of the best reputations in regards of quality and lifetime. New developments and product improvements to a range of force sensors that offers highest efficiency and best performance for end users and machine builders.

The main design principles like the use of strain gauges in full Wheatstone bridge circuits and double bending-beams have standed the test of time and help us to fulfill the market requirements.

**Functional description**

The amplifier provides a highly stable excitation voltage of 5 VDC to the force sensors. When a load is applied to the bending-beam of the force sensors the strain gauges are either elongated or compressed. This change in length leads to a change of the overall resistance of the circuit. The downstream electronics (amplifier or tension controller) detect these changes and calculates a force reading. The main advantage of the full Wheatstone bridge circuit is its simple and robust setup. Ambient temperature changes are fully compensated and contribute to precise measuring results and long lifetime.

The integrated mechanical overload protection prevents damage from the force sensors from unpredictable overload situations.

All FMS tension control products can be combined freely with each other. So you have the possibility to configure the best solution for your specific application.

www.fms-technology.com
GENERAL FEATURES:
Temperature range: -25°C (-13°F) to 85°C (185°F)
Nominal resistance diagrams V/V0S
Temperature coefficients: ±0.5% ±0.5%
Typical application | C-Series

Customized | Force Sensors and Special Solutions

- Stainless steel
- Integrated amplifier

- Hermetically sealed IP 67
- Ultra-compact
- "Integrated" tension sensing roller

- Axial forces
- Sea water resistant
- Direct replacements
### Other FMS Products

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<th>Tension controllers</th>
<th>ATEX-Intrinsically safe barriers</th>
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### Force Measuring Systems AG

**Tension Control**

**Web Guiding**

**Telemetry Systems**

FMS Force Measuring Systems AG is one of the worldwide market leaders in the fields of tension control and web guiding and the only manufacturer that covers a complete range of measurement, control and telemetry technologies. Its customized solutions are applied in the converting, metals, paper, textile and the cable & wire industry. FMS Force Measuring Systems AG’s leading technology, high quality components and a complementary service help customers around the world to maximize their product quality. Since 1993 its highly skilled workforce has crafted superior solutions and set the benchmark in the industry.