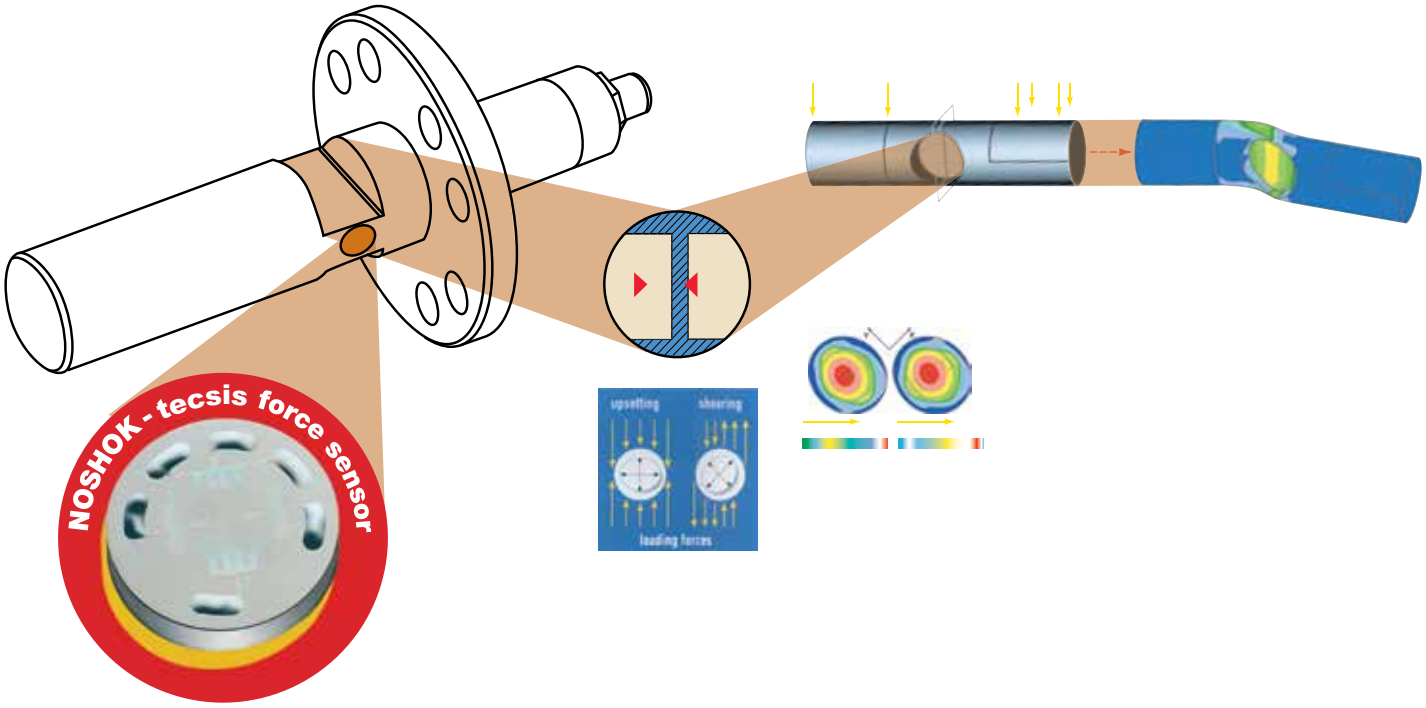
Custom Force Sensors

- Thin film sensor is laser welded to the deformation body for superior strength and performance
- Extremely accurate - with the help of Finite Element Method Analysis, this sensor is able to reach accuracies from 0.2% to 1% full scale
- Custom-designed to customer specifications and application needs, requiring less space for installation
- Provides OEMs and end-users unsurpassed flexibility and much higher accuracy than non-conforming standard designs
- Available in a variety of standard current and voltage output signals, with others available on request
- Deformation body is constructed from a high grade, high quality Stainless Steel that provides exceptional durability and extended service life
- Provides excellent performance and reliability while remaining cost effective

APPLICATIONS

- Jointing technology: pressing, punching, riveting
- Robot technology: contact forces, process forces, tong forces
- Platform technology: safety technology, lifting platforms, load status
- Cranes: overload protection, load measurement, cable tension measurement, slack rope recognition
- Farm vehicles and building machines: torque converter bearing, weight registration, tipping protection, support force
- Force measuring bearings: web tension, driving force
- Hoists and material handling: rough scales, cable tension
- Elevators: safety cutoff
- Testing facilities, machine & plant construction: locking force, torque monitoring, tightening force, anchor winches, traction and pressure forces, fill level measurement, tensioning forces, braking force, force on deflection rollers, cutting force, cable winches, conveyor belts

SPECIFICATIONS	
Output signal	4 mA to 20 mA 2-wire, 0 Vdc to 5 Vdc 3-wire 0 Vdc to 10 Vdc 3-wire Others available - please consult factory
Nominal ranges	1,000 lb_f to 100,000 lb_f (5 kN to 500 kN), standard Others available - please consult factory
Limit force	150% F_{nom}
Fracture force	>300% full scale
Accuracy	<1% full scale
Hysteresis	<0.5% full scale
Power supply	10 Vdc to 30 Vdc for 4 mA to 20 mA output and 0 Vdc to 5 Vdc output 14 Vdc to 30 Vdc for 0 Vdc to 10 Vdc output
Housing material	316 Stainless Steel
Temperature ratings	Storage -4 °F to 176 °F (-20 °C to 80 °C) Ambient -40 °F to 212 °F (-40 °C to 100 °C)
Response time	≤1 ms (between 10% to 90% full scale)
Environmental rating	IP 67, NEMA 4X to NE 60529/IEC 529
Electrical protection	Reverse polarity, over-voltage and short circuit protection
Vibration	20 g's per IEC 68-2
Electrical connection	M12 X 1, 4-pin standard Others available - please consult factory


NOSHOK - tecsis force sensor
upsetting
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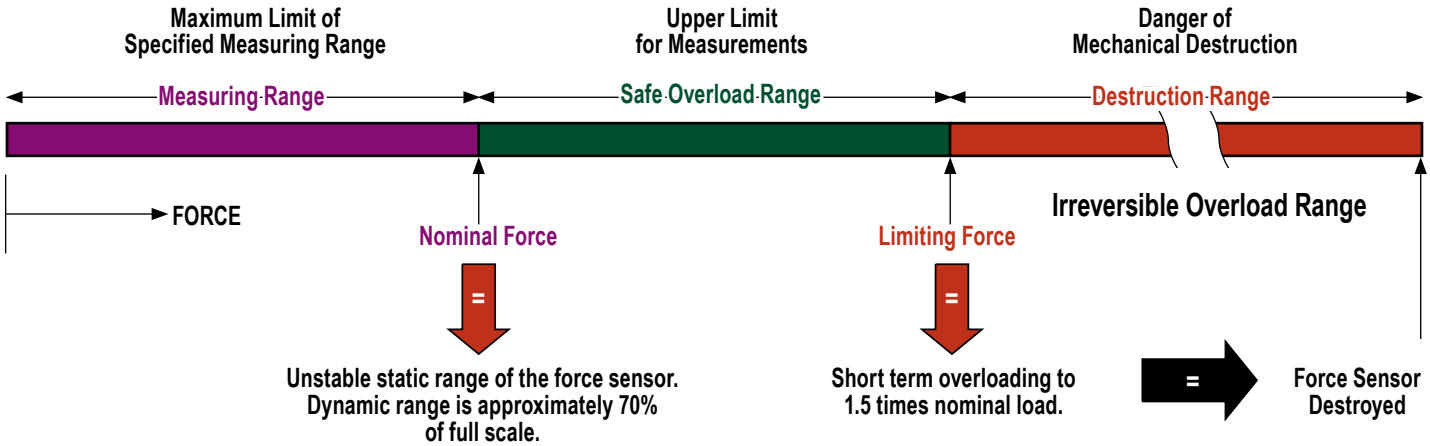
loading forces


Maximum Limit of
Specified Measuring Range
Upper Limit
for Measurements
Danger of
Mechanical Destruction
Measuring Range
Safe Overload Range
Destruction Range
FORCE
Nominal Force
Limiting Force
Irreversible Overload Range
=
=
=
Unstable static range of the force sensor.
Dynamic range is approximately 70%
of full scale.
Short term overloading to
1.5 times nominal load.
Force Sensor
Destroyed