LOADED BOLTS | IN-01M

Assess the connection. Bolt by bolt.

Portable magnetic stress-state screening for suitable steel bolts and studs.



IN-01M instrument and reference assembly shown in the manufacturer brochure.

Compare indications across a loaded bolt group, identify uneven patterns and select fasteners for closer examination. Record repeat measurements to establish a component-based history.

Potential applications
Wind turbine flanges, structural joints and pressure-system connections, subject to material, geometry, access and project-specific qualification.

PRODUCT & WORKFLOW

From indication to investigation.

The manufacturer describes IN-01M as a portable metal stress indicator with software support for a materials database. Custom sensor configurations are described for complex geometries and integration projects. Configuration and suitability must be confirmed for the intended bolt population.

Define the population: Record bolt material, dimensions, access, service conditions and the engineering objective.
Measure consistently: Establish instrument setup, measurement positions and reference conditions; repeat readings to assess stability.
Compare: Review relative bolt-to-bolt variation and any changes after a controlled intervention.
Verify and retain: Select appropriate follow-up checks and keep location-based records for subsequent comparison.

ILLUSTRATIVE BOLT-GROUP PLOTS

The supplied presentation shows uneven and more uniform response patterns across high-strength bolt groups. These examples illustrate comparison and reporting; they do not provide a validated acceptance threshold for another installation or establish BROT field achievements.

INTERPRETATION & LIMITS

Tightening torque alone does not establish uniform bolt stress. Magnetic response depends on material, geometry and acquisition conditions. A measured indication is not, by itself, a direct determination of bolt preload, fatigue damage or remaining life.

Fitness-for-service and remaining-life decisions require appropriate supporting data, qualified correlation and competent engineering assessment. Cloud reporting or continuous monitoring would require a separately engineered and qualified scope; the supplied files do not demonstrate a deployed cloud-monitoring system.

Sources: NTC-Spector EN_IN-01m manufacturer brochure and supplied Stress Distribution Over Group of HS Bolts presentation.
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