

AST Series Module

Fully Integrated Embedment Sensor with Strain, Acceleration, Tilt and Temperature

GENERAL DESCRIPTION

The AST structural monitoring module is designed for embedment in concrete providing a complete measurement solution in a single robust housing. Each AST module include a temperature compensated full bridge electrical resistance strain sensor, one 3-axis low-g accelerometer, one high resolution temperature sensor. Our unique combination of sensors in one integrated measurement system provides the perfect solution for dynamic and static structural monitoring applications like rapid pile load testing, impact monitoring, pavement monitoring and long term health monitoring. The low-g accelerometer provides 3-axis tilt measurements allowing complete sensor orientation in-situ as well as long term slope changes from bending and rotation.

Applications

- ✓ Drilled Shafts
- ✓ Bridge Column Load Monitoring
- ✓ Pavement Monitoring
- ✓ Dynamic Impact Monitoring
- ✓ Earth Retaining Walls
- ✓ Long Term Structural Health Monitoring

Parameter	Typical Values
Tilt Measurement	3 Directions (X, Y and Z)
Tilt Resolution	0.002 degrees
Tilt Range	+/- 90 degrees
Tilt Long-Term Stability	0.01 degrees
Temperature Sensor Accuracy	+/- 0.5 degrees Celsius (typical)
Strain Gauge Resolution	1 $\mu\epsilon$
Strain Gauge Range (typical)	+/- 1500 $\mu\epsilon$
Power Supply	12 Volts DC Unregulated
Low-g Accelerometer Bandwidth	Adjustable 0 to 1300Hz
Module Length	6 inches

Technical Features

- ✓ Static and Dynamic Forces
- ✓ Install at Any Orientation
- ✓ High-Resolution Strain Sensor
- ✓ Vibration and Impacts
- ✓ Long-Term Stability

