



# Process Monitoring Product Catalogue



Spot  
Welding



Riveting



Stamping



Clinching



Crimping



Press  
Fitting

Quality without Question



## Process Variation Monitoring

FORCEWorx®

**NEW****Process Variation Monitor for Quality Monitoring, Control, and Traceability**

PVM5000 Series

- Quality issue prevention
- Operator Friendly
- Large Data Capacity
- Wide Application Range
- Retrofit or new machine applications



PVM3000



FORCEView™



PVM3000



## Process Variation Monitor with Operator Interface

- Cost effective and robust process monitor
- Ideal for force forming applications
- Multi-colored graphic operator interface
- Data logging capability and traceability with included ForceView software
- I/O for machine control
- Retrofit or new machine applications



PVM1000



FORCEView™



PVM1000

## Signature Analysis for Process Monitoring and Control

- Signature analysis of process
- Suitable for high speed applications
- Multi-colored graphic operator interface
- I/O for machine control
- Retrofit or new machine applications



PVM600



## Process Variation Monitoring

FORCECapture™

**NEW**

PVM600

## Assembly Force Monitoring with Analysis Capability

- Force versus Time or Distance capability
- Detect process variations that correlate to quality defects
- Modular, flexible, adaptable
- Integrates with PLC systems for effective process monitoring and control
- Retrofit or new machine applications



PSC400EIP



## Process Variation Monitoring

FORCECapture™



PSC400EIP

## Threshold monitoring with EtherNet/IP interface

- Continuous force feedback for manufacturing, assembly, on-line processes, or product testing
- Auto-zero and remote reset features to synchronize with process cycles
- High accuracy
- Versatile



PSC400USB



FORCECapture™



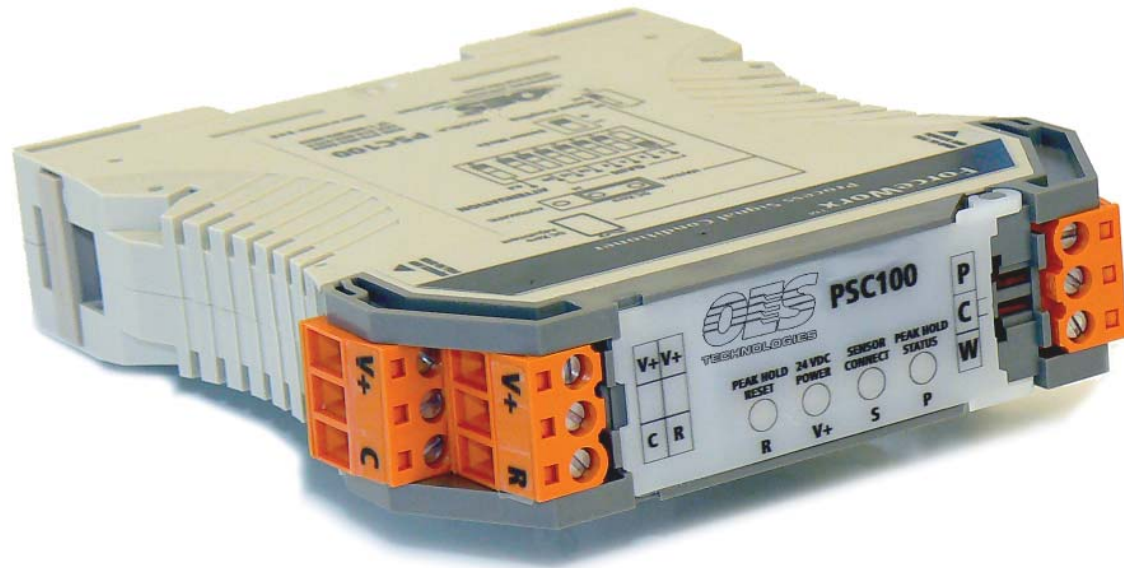
PSC400USB

## Assembly Force Monitoring for Test and Measurement Applications

- LabVIEW compatible
- Provides real time dynamic force measurement through entire process cycle
- Auto-zero and remote reset features to synchronize with process cycles
- High accuracy



PSC100

**FORCE**Capture™

PSC100

## Assembly Force Monitoring with Peak Hold

- Analog and Peak Hold outputs allow for real time process monitoring with machine control devices
- Peak hold with Auto-zero and remote reset features to synchronize with process cycles
- High accuracy
- Versatile



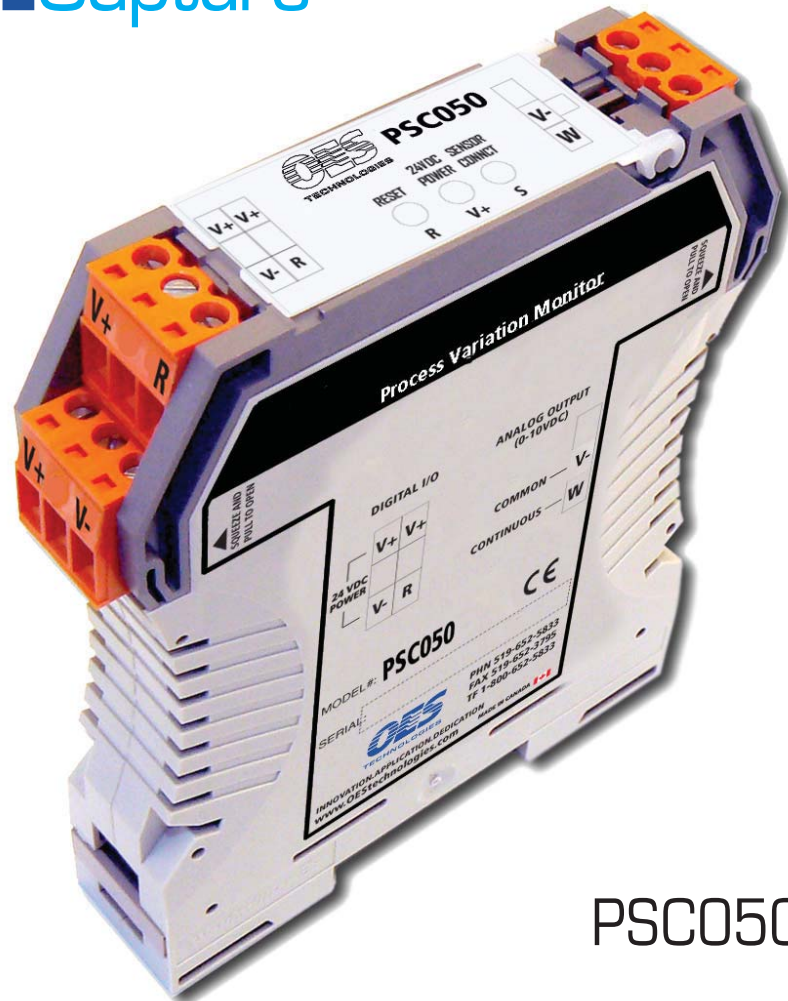
PSC050





## Process Variation Monitoring

FORCECapture™



PSC050

## Assembly Force Monitoring

- Auto-zero allows for real time process monitoring with machine control devices
- High accuracy
- Auto-zero and remote reset features to synchronize with process cycles
- Versatile



Sensors



Wide Range of Sensors

# Sensors

Strain



- Excellent performance and reliability
- Simple installation
- Low maintenance

Pressure



- Sense the hydraulic pressure during the work cycle

Motor Load



- Sense the motor load relative to work performed
- Metal forming, turning, & cutting applications

Displacement



- Dynamic position sensing

Force



- Direct measurement of force
- Excellent Performance
- Mounted in series for dynamic force monitoring





Sense the Signal in the Optimum Location

**SENFit™** Custom



## Dynamic Force Sensor as an Integral Component of the Machine

- Opens new opportunities for dynamic force monitoring applications
- Force range configured as required
- High resolution, robust, and reliable



**EXplorer™**

**EXplorer™**

Development Kit



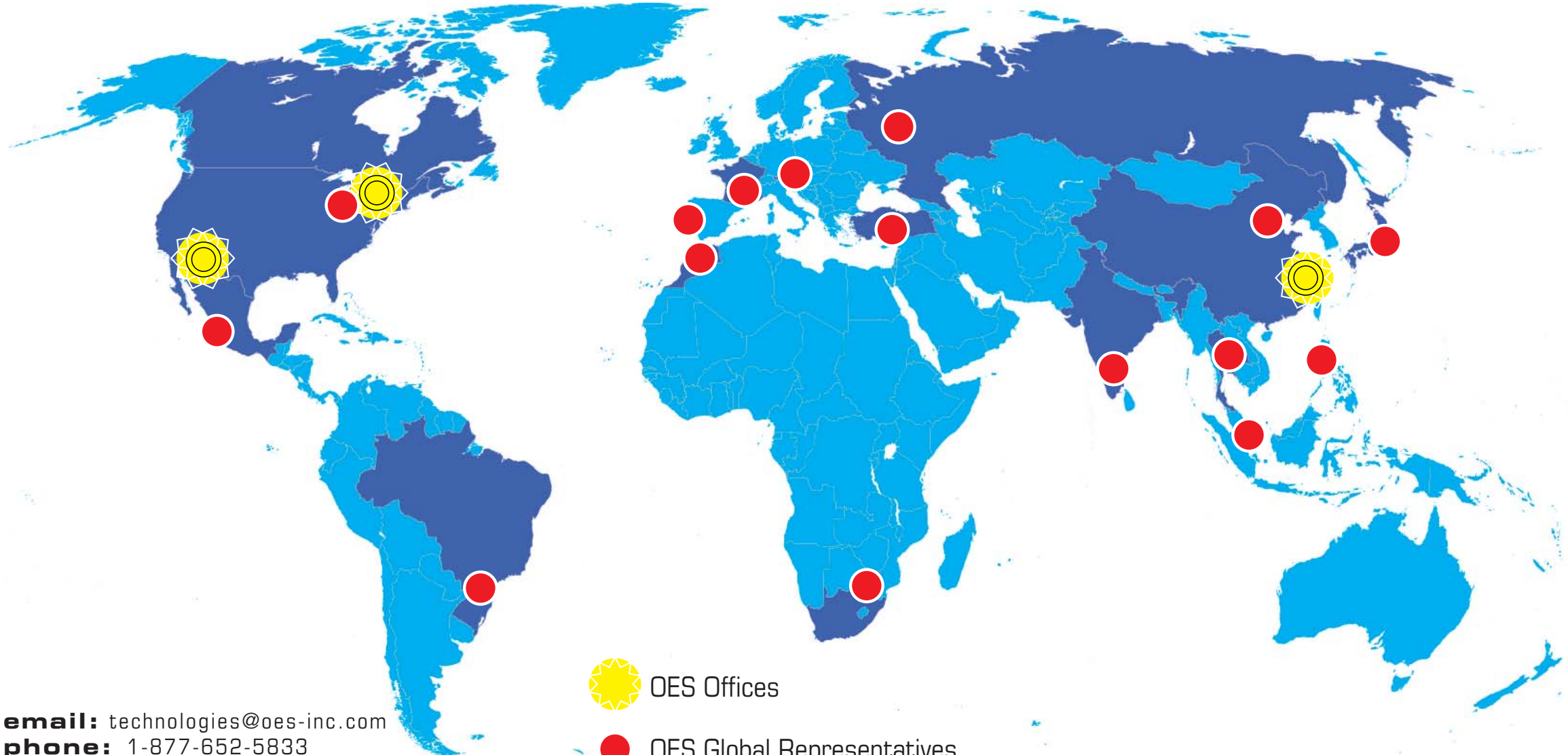
## Investigate and Validate New Monitoring Applications

- Capture the signature profile of the process
- Learn your process - repeatability, stability, variations, causes & effects
- Qualify a monitoring system capability

 Global Support



# Eliminating Defects for over 30 years



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