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## **Описание на системы отслеживания в реальном времени. Серия bopONLINE**



## bopONLINE\* – Continuous online monitoring for balance of plant machinery

# fact sheet

### Introduction

Traditional Bently Nevada\* monitoring systems such as the 3500 Series are widely recognized for protecting large, complex rotating machinery. However, Balance-of-Plant (BOP) machinery is typically not equipped with continuous online condition monitoring. As a result, these machines often operate without adequate protection, which leads to unexpected failure and hence production loss.

GE's Bently Nevada bopONLINE monitoring system is a cost-effective system specifically designed to continuously monitor and protect BOP assets in power generation plants.

### Applications

Machine types addressed by the bopONLINE system include, but are not limited to:

- Boiler Feed Pumps
- Blowers
- D/FD/PA Fans
- Electric Motors
- Compressors (air/radial/axial, centrifugal/positive displacement)
- Pumps (centrifugal and positive displacement)
- Pulverizers
- Gear Boxes

### Benefits

- Reduced cost compared to online monitoring systems such as our 3500 system, while still providing state-of-the-art monitoring functionality.

- Dynamic and transient data collection and System1\* connectivity to support predictive maintenance.
- Shares common configuration software with the Bently Nevada 3500 and 3500 Encore systems.
- Redundant power supply provides increased system availability for conditions where a single power line or supply fault cannot be allowed to take the system off line.
- The bopONLINE data interface module provides permanent system connectivity to plant DCS or System1 software via Ethernet ports.
- Increased channel density and reduced system size over conventional condition monitoring systems by eliminating separate I/O modules, relay controller cards, speed input cards, communication gateways, and reducing the number of power supplies.
- Lower installation costs by saving valuable cabinet space and spreading common components across more channels for lower per-channel costs.



# fact sheet

## Features

- Four channels in a monitor and 16 channels in the bopONLINE system.
- 16 Relay outputs standard with each bopONLINE system. Four relays per 4-channel vibration monitor.
- Four keyphasor inputs integrated with the bopONLINE data interface module.
- Six racks installed in one cabinet.
- Serial modbus communication built in for connection with DCS.
- Designed to comply with the American Petroleum Institute's API 670 standard applicable to BOP machinery.
- Analog 4-20 mA outputs are available for each channel and can be configured for any of the channel's measurement values.
- The terminations are provided in an innovative way on the backplane to provide ease of wiring and separation inputs and outputs on each side of the rack.
- WAN or LAN connections allow the user to remotely configure a bopONLINE system and even assess the system when an instrument problem arises.
- All bopONLINE monitors can be removed or installed with rack powered on.
- The bopONLINE system's two levels of password protection combined with a keylock for configuration changes ensures the system can't be adjusted, changed, or configured except by those authorized to do so.
- The bopONLINE system maintains extensive alarm and event lists that retain 8192 most recent alarm and 2048 most recent system events (configuration changes, errors, etc.).
- The system's real-time clock can be synchronized with external clocks, via connected Bently Nevada software.
- The bopONLINE system provides multiple measurements from each transducer channel.



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