**Brüel & Kjær Vibro**

Product Sheet

VIBROCONTROL 6000™ – Safety Monitoring System
Introduction & Benefits

*Modern process industries employ expensive, complex, high-speed machinery. In an effort to maximise plant efficiency and production throughput while maintaining long-term machine availability and reliability, it is vital that the plant is protected against unexpected loss of production through unscheduled stoppages and the machines are protected against expensive damage. **VIBROCONTROL 6000** is the new benchmark safety monitoring system that meets the criteria of reliability, sensitivity, accuracy and speed of reaction to sudden changes in machine condition.*

Compactness

VIBROCONTROL 6000 extreme compactness is unsurpassed. With just one 19" 3HE module housing, up to 48 channels (with an external power supply), or 36 channels (with a built-in power supply) of continuous safety monitoring are available!

Therefore three separate machines, each with 16 or 12 channels, can be monitored using one 3HE 19" module housing. This allows utilisation of existing cabinet space, or smaller new cabinets, even for large, multi-rack monitoring systems, thus saving costs and space. Centralised cabling and lower installation costs save even further.
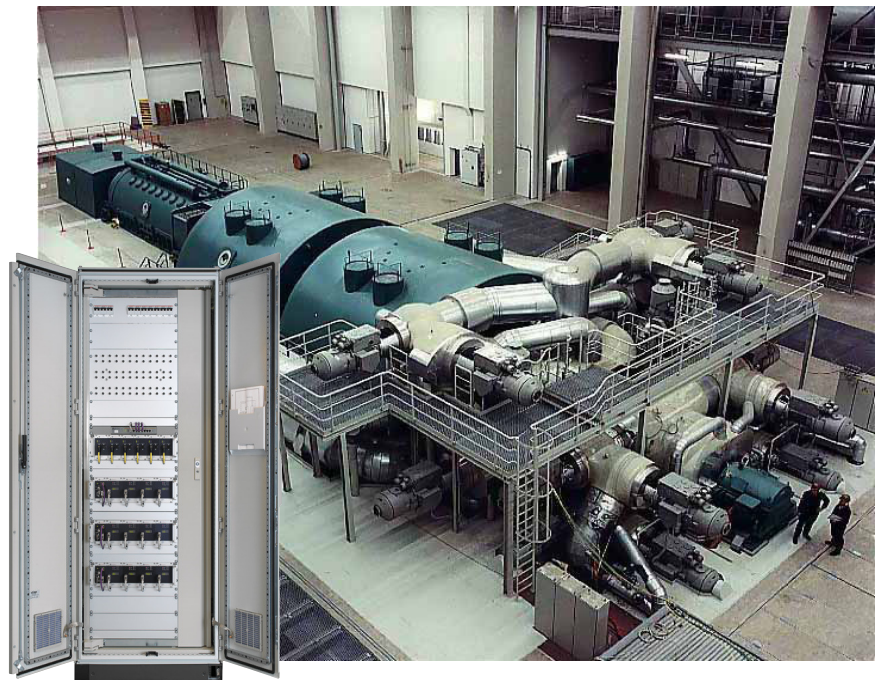
Versatility

VIBROCONTROL 6000 monitors almost any parameter with variations of just one module type, which can be supplied as transmitters, i.e. with only DC outputs, or with full alarm relays and DC outputs or with ModBus communication through a CI-module change.

Speed

With a minimum measurement, relay output and DC output response time of **10 ms.** as standard, **VIBROCONTROL 6000** provides a fast reaction to sudden changes, guaranteeing maximum protection for vital machinery, without requiring special modules that consume valuable rack space.

Application-specific

The application-specific module concept simplifies the system scalability, fits exactly the actual need or size of the monitoring system installation, reduces the complexity of the hardware and firmware selection process and provides a ready-to-use system requiring minimal on-site configuration by the end-user.

Application-specific Module Concept

The standard safety monitoring modules (SM) in VC 6000^{TM} are configured for a specific machine monitoring application.

A virtual data acquisition module brings imported values and data into the system for direct trending or calculating new values for trending.

Symbol	Measurement	Description	Explanation
	Relative shaft vibration	s_{max} peak, peak-peak Max. (x/y) Vectors	Orbit radius or diameter Max. displacement in x/y directions Magnitude & phase of harmonics
	Casing vibration	Velocity sensors Acceleration sensors	With f_0 = 8 or 15 Hz Constant voltage or current type
	Axial position	No. of sensors/channels 2oo2 voting 2oo3 voting	Rotor axial displacement 2 out of 2 voting on axial position 2 out of 3 voting on axial position
	Speed	Absolute speed Speed change Zero speed	Absolute or over-speed monitoring Speed variation in rpm/sec For activation of barring gear
	Rod-drop	No. of sensors/channels	Monitoring of piston ring wear
	Eccentricity	No. of sensors/channels	Monitoring of rotor bend
	Relative expansion	No. of sensors/channels	Monitoring of rotor expansion relative to stator expansion
	Process value	No. of process value inputs	Monitoring of temperature, pressure and other process variables,
	Binary	No. of Trip-multiplier inputs	Controlled input signal for automatic activation of trip-multiplier during run-up/coast-down
	Alert & Danger relay	Total no. of monitoring relay pairs	Alert & Danger alarm relay output activation
	DC output	No. of DC-out channels	Analogue DC voltage or current output signals proportional to measured value

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