



330(D) x 900(W) x 345(H) mm

Zephyr® Active Magnetic Bearing Controller

The Zephyr controller is a powerful, compact, cost effective magnetic bearing controller for turbomachinery and rotating equipment in the power range of **1 MW to 18 MW**.

- Simple and fail-safe integration of the controller with the machine station via the digital output/input from the digital controller
- An optimised, automated commissioning and tuning process available to the OEM/end user
- Remote monitoring and adjustment capabilities
- Built-in condition monitoring system provides comprehensive diagnostics
- High processing performance which allows for more complex algorithms that provide higher dynamic efficiency, improved usability and ergonomics, and noise immunity
- The integrity of functional testing, verification and development of new features performed on in-house test rig is far superior to simulation testing methods used by others

CONFIGURATION

- 5 axis controller (option for 4 axis control)

INTERFACES

- Hardwired discrete DCS interface*
- Analogue diagnostic outputs*
- Temperature (RTD)**
- MODBUS RTU or TCP slave*
- SOAP slave*

CONTROL LAW CAPABILITY

- SISO/MIMO controller with tracking filters
- Multi-coordinate control (MCC)
- Automatic balancing algorithm (ABA)
- Runout compensation
- Open loop feed forward**
- Advanced amplifier algorithm (for software flux feedback)

SENSOR SUPPORT

- Inductive
- Magnetic displacement**
- Flux feedback**

DIAGNOSTIC CAPABILITIES

- Web server interface*
- Event logging*
- Automatic clearance check
- Integrated transfer function measurement**
- Integrated spectra capability**
- Integrated harmonic capture**
- 3rd level trip*
- Built-in tools show compliance with ISO sensitivity performance criteria*

OTHER

- Support for purge protected bearings

* Available as an option or as standard depending upon variant

** Not available on some variants

AT A GLANCE

Machinery power range: 1 to 18 MW

For critical applications requiring the highest availability:

- Oil & gas transportation, storage and production
- Petrochemical and process equipment
- Compressors, motors, generators, pumping systems and industrial chillers
- Turbomachinery and blowers
- Sour gas with sealed bearings

Benefits:

- Very simple to operate: no control buttons
- No moving parts, contributing to exceptional reliability
- Flexible mounting: on the wall or in a cabinet
- Reduced maintenance cost with planned and predictive maintenance programmes
- Lower total cost of ownership due to higher reliability and lower maintenance costs
- Automated Commissioning can eliminate OEM/end user dependence on the supplier
- Capability of retrofit to magnetic bearings supplied by others

Certification:

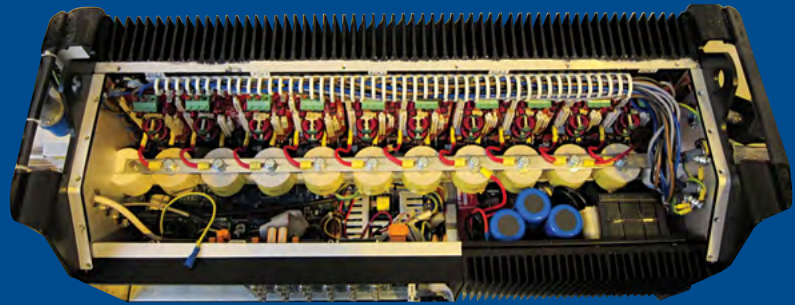
- CE, CB and TR-CU

Support:

- 24-7 on-call service (reply within 1 hour)
- Spares service and extended warranty option
- Comprehensive training programme

SPECIFICATION

ZEPHYR BEARING CONTROLLER



Site Installation	Indoors with atmospheric control or regular air exchange
Frame Size & Rating	330(D) x 900(W) x 345(H) mm; Cable entry from sides. IP30 convection air cooled with option for forced cooling for higher output current
Dimensions Allowing for Cabling	360(D) x 1000(W) x 345(H) mm
Additional Area Above Left for Passive Cooling Vent	330(D) x 895(W) x 845(H) mm
Maximum Weight	45 kg
Input Voltage: Mains Option	230VAC (50/60Hz), single phase (model 5000: 1.5kW max, model 6000: 3kW max), EMC/EMI filtered, external UPS required
Output Power	390V @ 24A per magnet (continuous), 28A (peak)
Operating Temperature Range	30°C above ambient, max +70°C
Relative Humidity Range	15 to 80% max non-condensing
Transport & Storage Temperature Range	-40°C to +70°C, humidity 93% max non-condensing
Area Classification	Non-hazardous
Maximum Cable Length Between Cabinet & Bearings	150m; consult for extended cable lengths to 500+m
Certification	CE, CB and TR-CU; contact Waukesha Magnetic Bearings for certificate numbers

