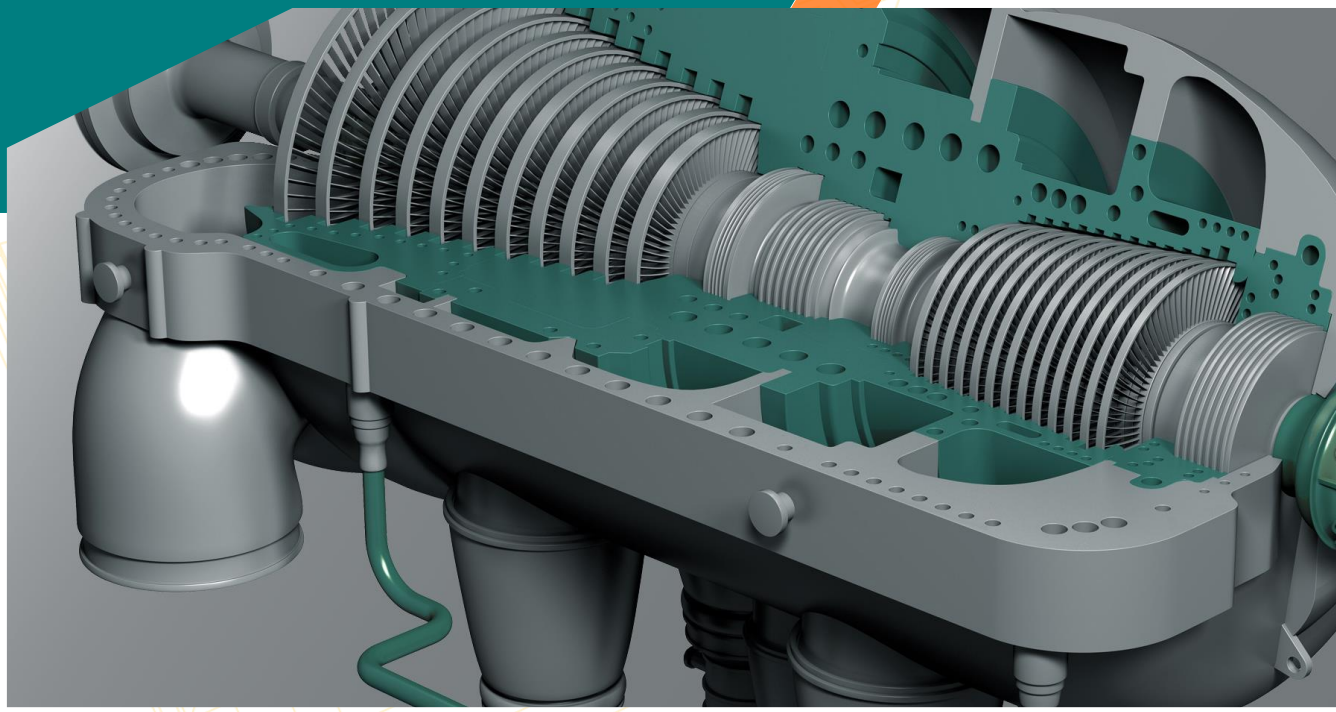
HEINZMANN®
thinking in drive and control

CAPABILITY STATEMENT



ESTABLISHED 1991
ABN 156 003 880 38

“thinking in drive and control”

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CONTENTS

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EXECUTIVE SUMMARY

HEINZMANN Australia Pty Ltd (HZA)

Leader in integrated steam turbine and power generation controls. Si-TEC®: Smart integrated - Turbine Energy Control. For over 30 years HEINZMANN Australia has been forging the way with our unique Si-TEC control philosophy, which empowers customers to unlock the full potential of their steam turbine operational capabilities. Through seamless integration, the Si-TEC optimises turbine and generator reliability, efficiency, and safety. With thousands of installations worldwide, HEINZMANN Australia supports an extensive range of applications and industries through our global network.

MAJOR CLIENTS

Mammoth Equipment and Exhausts

wilmar

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DISTRIBUTORS

Energy Power CONSULTING ENGINEERS

GREAT ENERGY

SYNCHROTECH CONTROLS Electrical Engineers

LAKEWOOD ELECTRICAL SERVICES P/L

HIGH ENERGY SERVICE

CONTACT

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HEINZMANN® thinking in drive and control

Heinzmann Australia Pty Ltd.

Proud to be the only Australian manufacturer of steam turbine controls, genset controls and auxiliary accessories.

AUSTRALIAN MADE

Proudly Certified Australian Made by Heinzmann Australia Pty Ltd.

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KEY PERSONNEL

Managing Director – CHRISTOPHER STAFF (Engineering Mechanical)
Chris joined the company in 2013 as Managing Director and holds Engineering (Mechanical). In his role as Managing Director Chris is actively involved in design, manufacturing, sales, and service, for Heinzmann Si-TEC products both locally and overseas. Chris's experience includes but not limited to mechanical and hydraulic engine/turbine control systems, governors and actuators. Chris has over twenty years of experience in sales and marketing along with managing HZA.

Application Sales Manager – REMESH PRASAD (B.E., MBA)
Remesh joined the company in 2000 and has 30 years' experience in steam turbine and power generation controls. Remesh's qualifications include B. Eng. (Hons.) in Electrical and Electronics Engineering from the University of Glasgow, and a M.B.A. from the University of Queensland. Remesh provides application engineering and product support for a wide range of customers including steam turbine OEMs, our network of distributors and end customers. His key strengths include complex power generation control solutions, turbine retrofit solutions, and sales and marketing of the Si-TEC range of integrated digital control systems.

Technical Service Engineer – RAYMOND NEWING
Ray has over 43 years hands-on experience in the aviation, sugar, mining and power generation industries. Of these years, Ray has been with Heinzmann Australia for the past 38 years, providing technical support and commissioning in the Speed Governing and Power Generation fields.

Research & Development Engineer – LACHLAN CURRIE
Lachlan joined HZA in 2023 as a Sr R & D Embedded Electronics Engineer and has been working in the industry for over 8 years. He graduated from Griffith University with a bachelor in electrical & Electronics Engineering and BSc in Physics. In his current role as R & D engineer, Lachlan oversees the day-to-day research activities of the company. Lachlan is involved in aspects of the design and manufacturing of embedded systems of Si-TEC. After his years of AI/ML experience, Lachlan provides a huge base of knowledge and expertise in producing quality embedded systems.

Other key personnel include:

- Thanh Nguyen- Electronics Production Engineer
- Stefan Krishnamoorthy- Electronics Production Engineer
- Mark Veronese- R & D Engineer
- Kieran Hensch- Workshop Technician
- Grant O'Callaghan- Workshop Technician

SERVICES & CAPABILITIES

Products And Services

HEINZMANN Australia provides several services to support its growing range of products. We place a high priority on back up support to our customers including a range of in-house services and national / international on-site support. Heinzmann Australia develops, produces and provides steam turbine control solutions, grid parallel controls, hydraulic actuators and control accessories. Heinzmann Australia delivers professional engineering and commissioning services support.

HZA team is highly trained, many of whom have numerous years of hands-on experience over a wide range of products and applications. We enjoy the opportunity to work with consultants, authorities, and end users in the early stages of system design to ensure the best possible solution is achieved for any given application.

- Generator Application Design
- Power Generation System Design
- Trouble Shooting 'online'
- Trouble Shooting Software
- Training
- Retrofit Engineering
- Services & Repair

Quality Assurance

HZA is dedicated to the quality policy that will ensure that our products and services fully meet the requirements of our customers always. The goal of the company is to always achieve a high level of customer satisfaction. Commitment to the implementation of supporting managerial and business operational systems is essential to realising that goal.

HZA believes in the concept of client and supplier working together in pursuing this policy and in continually striving for improvements in quality.

The quality policy is based on 3 fundamental principles:

1. Ensuring that we fully identify and conform to the needs of our customers.
2. Looking at our internal processes, identifying the potential for errors and taking the necessary action to eliminate them.
3. Everyone understanding how to do their job and doing it right first time.

To ensure that the policy is successfully implemented, workers will be responsible for identifying customer requirements, and ensuring that the correct procedures are followed to meet those requirements. Objectives needed to ensure that the requirements of this policy are met, and that continual improvement is maintained in line with the spirit of the policy, are set, determined and monitored at Management review. The quality policy principles and objectives will be always communicated and available to workers. Training will be an integral part of the strategy to achieve the objectives. Within this Policy we are committed to operating our company under the disciplines and control of a Quality Management System conforming to ISO 9001:2015 and is planned and developed jointly with our other management functions. HZA is all committed to operating continuously to this standard and we will maintain the necessary quality approvals consistent with our customer requirements. We will constantly review and improve on our services to ensure tasks are completed in the most cost effective and timely manner for the benefit of all our customers. We shall ensure that all our personnel understand and fully implement our policies and objectives and are able to perform their duties effectively through an ongoing training and development programme. This policy is reviewed on an annual basis.

Environmental Policy

HZA is committed to a policy of providing high quality products and services in a manner which will protect the environment, this will include:

- Sustainable resource use
- Climate change mitigation and adaptation; and.
- Protection of biodiversity and ecosystems

HZA works closely with our clients, contractors, the community, industry and external agencies to establish the controls by which we can make a positive contribution towards innovative and cost-effective and sustainable environmental outcomes.

Responsible management of environmental issues is an essential part of achieving our business objectives.

Accordingly, HZA is committed to conducting our activities in ways which will:

- Improve our awareness and management of environmental risks
- Prevent pollution
- Fulfil compliance obligations
- Promote waste minimisation
- Continually improve the system to enhance environmental performance

HZA, through its management and workers, ensures its operations comply with this policy by developing, implementing and maintaining a system based on ISO 14001:2015.

The Environmental Management System will:

- Set a clear policy direction for environmental issues and objectives
- Contain measurable objectives and targets
- Establish systems for auditing monitoring and reporting performance
- Identify and promptly resolve any non-conformances and document any necessary procedural changes

This policy is reviewed on an annual basis.

Health & Safety Policy

HZA is committed to providing safe and healthy working conditions for the prevention of work-related injury and ill health for our workers and for contractors and visitors to the workplace.

The system has been based upon the requirements of AS/NZS ISO 45001:2018 and includes our processes and commitments to.

1. Fulfil legal requirements and other requirements.
2. Eliminate hazards and reduce risks.
3. Continually improve the system; and
4. Consult and encourage the participation of all workers, and, where they exist, workers representatives.

HZA understands the creation and maintenance of a safe and healthy working environment is a major part of our overall responsibilities, and that all workers with management or supervisory responsibilities are personally accountable for the health and safety of workers, contractors and visitors in their specific work areas.

In conjunction with this policy, risk assessments and safe work procedures have been prepared in consultation with relevant workers and issued.

HZA expects all workers, at levels within the organisation, contractors and visitors to our workplaces to follow safe work practices as prescribed under the legislation and in our policies and procedures, and that they make every effort to eliminate work related injuries and illness to themselves and others.

Objectives and targets are established on an annual basis, based upon the context of the organisation, needs and expectations of interested parties and risks and opportunities.
HZA will provide adequate resources to manage and maintain the system, fulfil measurable objectives and targets, together with regular training on work health and safety and provide and promote rehabilitation.

Work Health and Safety is important, and we all have an obligation to ensure that we have a safe and healthy working environment, and we encourage y to actively participate so that we may achieve this goal.


GRS CERTIFIED
QUALITY
ISO 9001:2015
GRS CERTIFIED
ENVIRONMENT
ISO 14001:2015
GRS CERTIFIED
SAFETY
ISO 45001:2018
GRS
CERTIFICATION
JAS-ANZ
WWW.JAS-ANZ.ORG/REGISTER

INDUSTRY APPLICATIONS

Sugar & Paper Mills

Oil & Gas Industry

Mining Industry

Utility Generation

Commercials and Hospitals

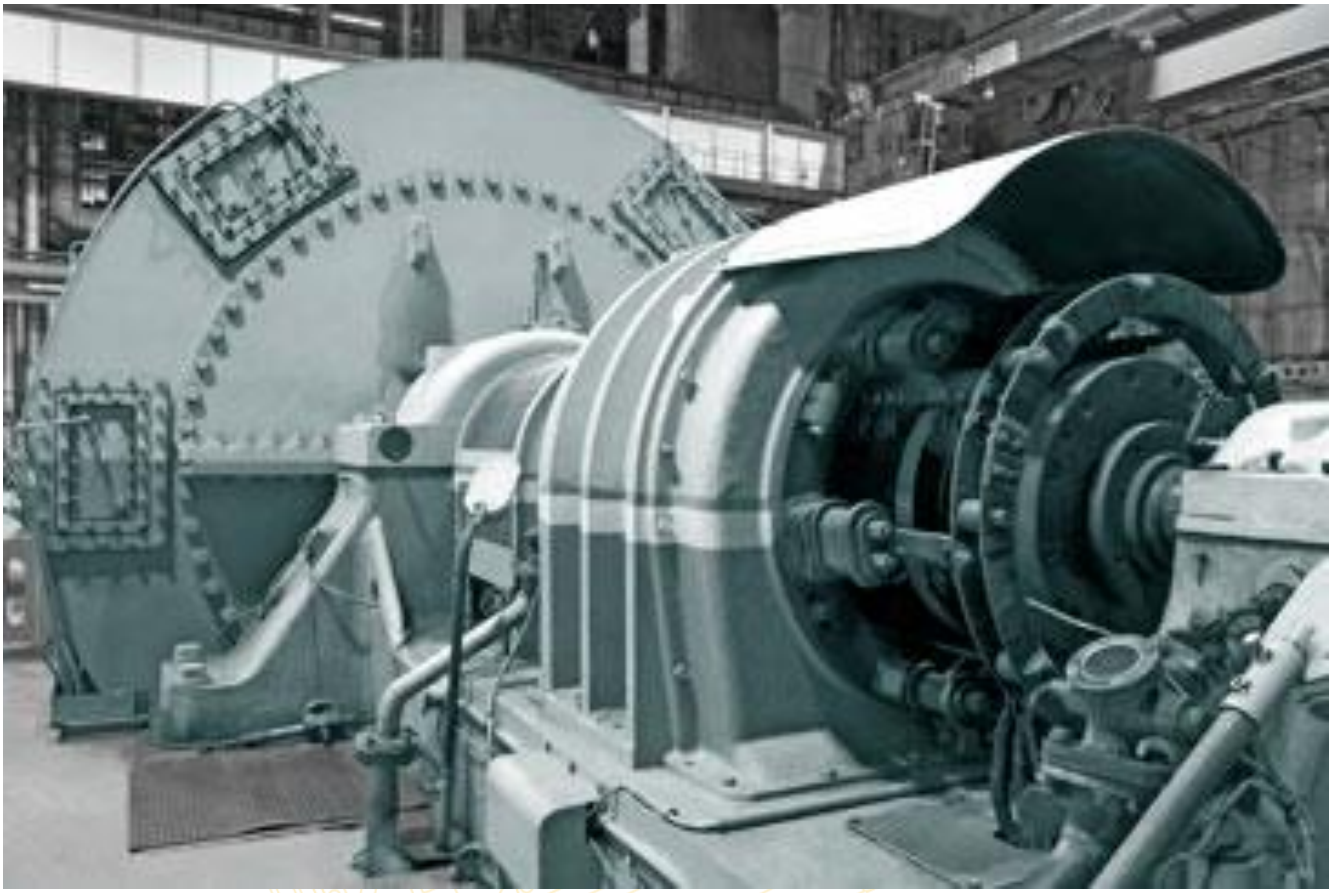
Utility Feeder Control

APPLICATIONS

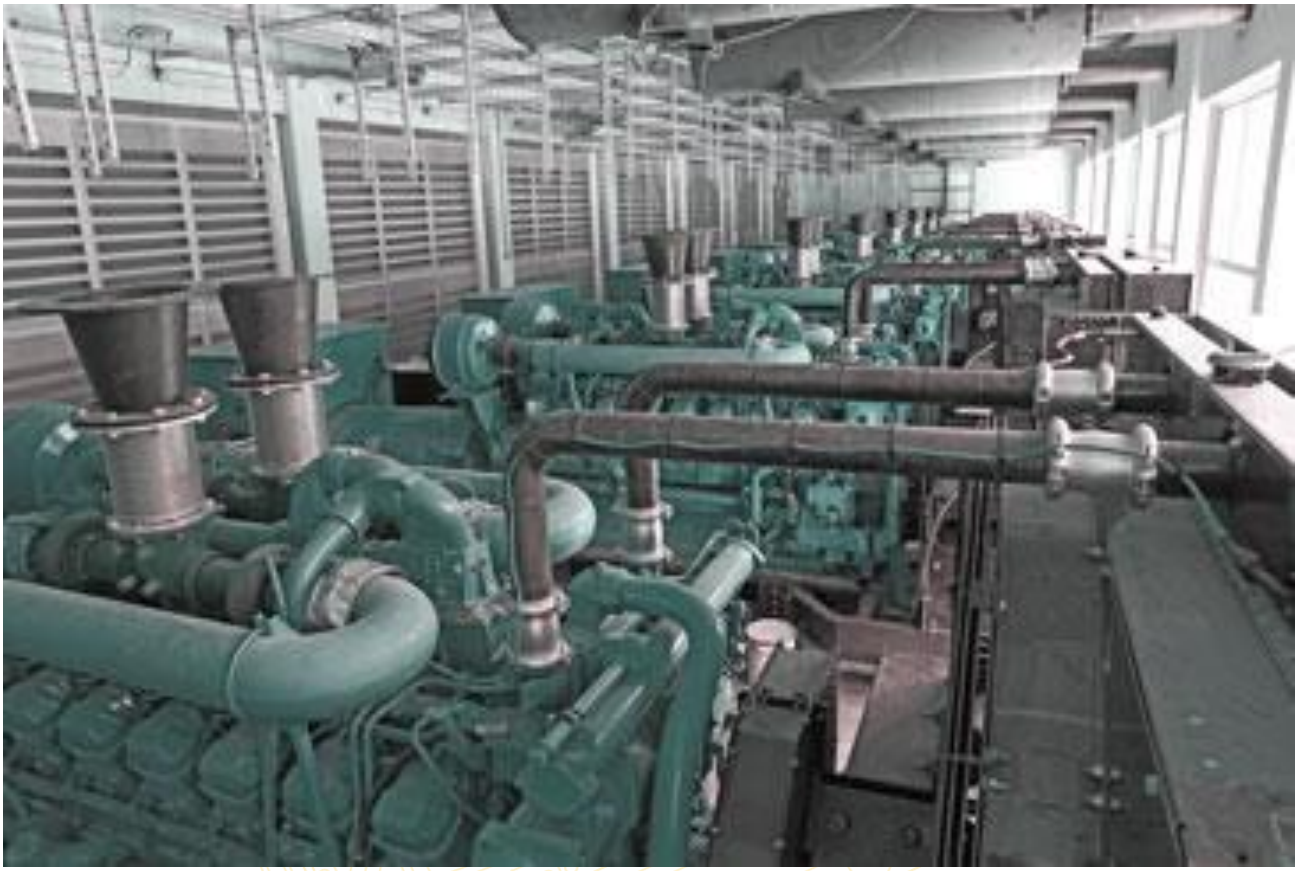
Si-TEC (Smart Integrated Turbine & Engine Control) remains the world's only digital governor fully integrated with an automatic synchroniser and kW/kVAr generator control. HEINZMANN Australia has more than 4000 Si-TEC Xtend Control Systems in operation throughout the world. This includes steam turbine digital governors, generator and grid-parallel controls, hydraulic amplifiers, control accessories and smart software tools. We cover an extensive range of steam turbines used in various applications including sugar, ethanol, palm oil, pulp & paper, refineries, oil & gas, mining and utility generation.

Steam Turbines

Steam Turbine Generators



Diesel Generators



Gas Generators

SIGNIFICANT PROJECTS

Oji Fibre Solutions

Upgrade of complex steam turbine and power management control:

Kinleith Mill located in Tokoroa, New Zealand is the largest mill under Oji Fibre Solutions' Pulp and Paper business division, producing 500,000 tonnes of bleached softwood market pulp and kraft liner board paper annually. One of the most critical aspects of Kinleith Mill operations is the efficient and reliable operation of their Co-Generation plant comprising of 1 x 40.0 MW

steam turbine generator, with 45 Bar supply steam. Apart from producing power to reduce the mills' import power from the Grid supply, the steam turbine generator also produces and controls the extraction process steam at 12.5 Bar for Paper Machines and Batch Mills, while also controlling exhaust process steam at 4.5 Bar for by-products (e.g., acids, chlorine, turpentine, etc.) and bio-fuel recovery processes. The main issues that Kinleith Mill faced were poor regulation of steam turbine control (via obsolete analog electronic governor) and extraction control, resulting in frequent manual intervention by the operator during synchronising, load control, extraction control as well as abnormal boiler conditions.

HEINZMANN Australia was able to engineer the optimum solution through the CGC-TSX integrated governor system controlling 4 x HA22E amplifiers (2 x HP valves and 2 x LP valves) resulting in a smooth and seamless automatic control system solution for the customer, with main contractors being Weir Minerals Australia. The CGC-TSX system provided a customized start-up sequence, optimum steam turbine governing control, automatic synchronising control, kW and PF control, as well as automatic extraction pressure control (12.5 Bar), and exhaust pressure control (4.5 Bar). In addition, the CGC-TSX also incorporated an "Inlet Pressure Override" control mode, which guaranteed a quick reduction in load during abnormal boiler steam supply conditions, preventing the steam turbine from tripping, and helping with smooth recovery after the abnormal boiler steam pressure was overcome. The overall customer feedback was positive, with smooth control and simplified operations.

Application Type: Co-Generation Power Plant (Pulp & Paper Mill)

Turbine Type: 1x Allen backpressure-controlled extraction steam turbine generator
Power Output: 1x 40.0 MW

Country: New Zealand

Systems and Components:
1 x HEINZMANN Si-TEC Xtend CGC-TSX governor
1 x HEINZMANN Si-TEC Xtend PCU module
2 x HEINZMANN Si-TEC signal converters (4 to 20mA to 0 to 200mA)
4 x HEINZMANN HA22E hydraulic amplifiers
Engineering design and system upgrade drawings

La Fourche Sugars LLC

Upgrade of steam turbine and power management control
LaFourche Sugars LLC located in Thibodaux, Louisiana, USA is one of the leading sugar mills operating in Louisiana, producing 120,000 tonnes of raw sugar annually. Apart from sugar Production, the mill also had a Co-Generation plant comprising of 1 x 4.5 MW steam turbine generator, with 650 PSI supply steam. Apart from producing power to reduce the mills import power from the Grid supply, the steam turbine generator also produces exhaust steam

pressure at 180 PSI, for supply steam to the steam turbine drives (e.g., mills, fans, pumps, etc.) as well as the entire factory electrical load. The main issue that LaFourche Sugars faced was poor regulation of steam turbine control (via the existing WW 505 digital governor and EG10P electro-hydraulic actuator) requiring manual intervention by the operator during synchronising, loading, and load variation during abnormal boiler conditions.

HEINZMANN Australia was able to engineer the optimum solution through the CGC-T integrated governor system controlling the StG30 actuator, resulting in a smooth and seamless automatic control system solution for the customer, while integrating the system upgrade in the existing control panels (after the removal of WW 505 governor). The CGC-T system provided automatic start-up sequence, optimum steam turbine governing control, automatic synchronising control, kW and PF control, as well as 'Process Control' via inlet steam pressure control @ 650 PSI. This control mode helped guarantee a fully automatic control system with seamless control during normal and abnormal conditions, preventing the steam turbine from tripping, and helping with smooth recovery after the abnormal boiler steam pressure was overcome. In addition, the CGC-T maintained smooth turbine control in Island mode (frequency control) during the sudden loss of Grid supply, safeguarding the factory operations until re-synchronising back with the Grid supply. The overall customer feedback was positive, with smooth control and simplified operations.

Application Type: Co-Generation Power Plant (Sugar Mill)

Turbine Type: 1x Elliott United Technologies backpressure steam turbine generator
Power Output: 1x 4.5 MW

Country: USA

Systems and Components:
1 x HEINZMANN Si-TEC Xtend CGC-T governor
1 x HEINZMANN StG30 Actuator
1 x HEINZMANN Sapphire II Overspeed Protection Device
1 x HEINZMANN Si-TEC Xtend GSM control

Defence Projects

HMAS Adelaide
HMAS Canberra
HMAS Stirling
HMAS Kuttabul
ASC Collins-class submarine

RAAF Base Amberley
RAAF Base Darwin
RAAF Base Williamtown
RAAF Base Scherger
RAAF Base Tindal

PRODUCTS

Heinzmann Australia Pty Ltd has manufactured the exceptional range of Si-TEC controllers for steam turbine applications since 1992. The Si-TEC range of controllers integrate seamlessly into most of the mechanical drive and generator drive steam turbine applications. As technology has evolved, several new generations of turbine governors and generator controls have been introduced. With more than 4000 Si-TEC systems now in operation globally, the Si-TEC control provides a further enhancement of this already successful product range.

Coupled with the sale of Si-TEC products, HEINZMANN Australia offers professional engineering and commissioning services, delivering excellence in customer support from project concept through to practical completion.

Si-TEC Range of Steam Turbine Governors

The Si-TEC BDG and Si-TEC Xtend ADG are steam turbine controls, specifically designed for mechanical drive applications (i.e. pumps, fans, shredders, mills, etc.). These controllers offer optimum steam turbine performance during transient and steady state conditions, utilising their wide range of control speed PIDs.

The Si-TEC BDG (Basic Digital Governor) design is based on the very successful Si-TEC Xtend ADG (Advanced Digital Governor). The compact design, user friendly interface, onboard data logging and wide range of PIDs makes the BDG a standard choice for steam turbine control solutions. ADG (Advanced Digital Governor) is a steam turbine control designed for mechanical drive applications. ADG is utilised for constant and variable speed “single drive “application, and for “dual drive“(tandem) load sharing applications.

Hydraulic Amplifiers

The HA series Hydraulic Amplifiers from HEINZMANN Australia provide the force to operate heavy control valves of steam turbines or fuel control linkages of large reciprocating engines. This may be done via a mechanical input (i.e. HEINZMANN all electric actuator) or via a 0 – 200mA input signal to the built-in internal actuator. Our amplifiers are characterised by minimal overshoot, cast iron casing and billet power piston & output shaft. The output shaft supports bush (oil fed). Anti-wear coating has been applied for longer service life.

HEINZMANN Australia offers a cost effective direct "bolt-on" replacement for Woodward 5¼" and 7¼" hydraulic amplifiers.

Key Features

- Product accepted by SNM, Allen (WEIR) & NG steam turbine OEMs
- Main housing made from high spec 500-7 Nodular Graphite Iron (Ductile Iron)
- Power piston & output shaft made from EN36 steel, for extra durability and reliability
- Output shaft has oil fed support bush, for improved side loading
- High efficiency oil motor, excellent performance even in harsh oil conditions
- Internal actuator oil accumulator, for improved stability ("HA22E" only)
- Optional oil filter, for improved service life and reliability ("HA22E" only)

Rotary Actuators with Gears

The HEINZMANN range of StG all-electric rotary actuators with internal gearing is based on precise and very quick responding DC disc motor, which has been integrated with pinion and sector gear to interface with the actuator output terminal shaft. These actuators also provide instantaneous and contact-free position feedback continuously.

This range of StG actuators provide a nominal torque of 4 Nm to 180 Nm and a control angle of 36˚, 42˚or 90˚. They are used in a wide range of steam turbine applications, as well as medium and large reciprocating (diesel & gas) engine applications. The actuators can be combined with the Heinzmann Si-TEC range of digital governors (e.g. CGC, ADG, BDG, etc.) as well as other ranges of Heinzmann governors.

ONYX Turbine Generator Display

ONYX is a remote display of Si-TEC Xtend turbine controller CGC and is used for steam turbine generators like back pressure turbines, condensing turbines and extraction turbines.

- 12'' or 15" flat "capacitive" touch screen
- Turbine operation and configuration password protected
- Clear and precise visual representation of all turbine and generator parameters
- Real-time information from Si-TEC Xtend controller updated instantly to ONYX display
- No requirement for external logic switches reducing wiring interface
- Turbine monitoring (including inlet pressure, exhaust pressure, extraction pressure, etc.)
- Range of alarm functions logic status and event log
- Easy navigation of all information pages and turbine control functions

Tuning Software

pcTune is a real time tuning and diagnostic tool, providing high-speed data and graphic update. Data includes extensive operating parameters including all PIDs. Data may be saved, loaded, reviewed, exported, etc. Additional screens provide instrument panels. All generators in system load share, dead bus operation, and much more.

Suitable for:

Si-TEC Xtend CGC Controllers

Si-TEC Xtend GSM Controllers

Si-TEC Xtend ADG Controllers

Si-TEC BDG Controllers

HPC I/H Converters

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