

# THYCON

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Company Profile

**THYCON**





*Australia's leading manufacturer of power quality and conversion solutions for the industrial, resource and commercial sectors.*

**Australia's foremost manufacturer of power conversion products**

Thycon is Australia's leading manufacturer of power quality and conversion solutions for the industrial, resource and commercial sectors.

Since the company's foundation in 1968, our product line has grown steadily in response to technical advances and market needs. Today, it encompasses variable speed drives, voltage and current regulated static power supplies, airfield lighting regulators, cyclo-converters, line conditioners, high-current rectifiers, inverters, uninterruptible power supplies, static frequency converters, active voltage regulators, active power factor regulators, active harmonic regulators and more.

**Diverse customer sectors**

These products have been supplied to most government departments and blue chip commercial and industrial companies throughout Australia. They have been used to supply and protect applications as diverse as computer networks, newspaper presses, manufacturing machines, stadium lighting, airfield lighting, commercial and defence aircraft, motors, anodising plants and rotary and static frequency loads.

A cross-section of our customer sectors include:

- government departments and agencies
- banking and finance
- commerce
- manufacturing
- airports
- mining
- aviation
- process control
- telecommunications
- metal finishing
- power distribution

**A growing international reputation**

The Thycon reputation for robust, long life, quality equipment is well established in Australia where many products are still in operation after more than 30 years of service. In recent years we have also earned international recognition in the form of multimillion dollar contracts with Northrop Grumman Corporation (USA) and authorisation by the US Department of Defence to collaborate in the design, manufacture and testing of radar power supply requirements for the Wedgetail (Australia) Multirole Electronically Scanned Array (MESA) Radar Program, and Peace Eagle (Turkey) MESA Radar Program. The MESA Radar is the next-generation replacement for the Airborne Early Warning and Control (AEW&C) program that Northrop Grumman is manufacturing under contract for Boeing.



*We do not badge generic overseas products or rely on foreign engineering expertise ....*

Tireless in maintaining our good record and pushing forward our international successes, we have substantial ongoing investment in research and have extended our production and service facilities to include transformer manufacturing, clean room environments, semiconductor component testing, infrared thermal scanning and power quality and harmonic monitoring.

Certification to quality management standard ISO 9001:2008, and careful selection and training of our people, rounds out our approach to building an innovative and expert company that can meet ever-changing market demands.

### **Designed for Australian conditions**

Thycon products are designed and developed to handle conditions in Australia, where robustness, reliability and efficiency are imperative. We do not badge generic overseas products or rely on foreign engineering expertise when tackling complex local power issues.

Where appropriate, key components of every product are sourced from local suppliers. This ensures that we retain full control when designing, manufacturing and servicing our products. Keeping our engineering expertise local means we can tailor our power quality and conversion solutions to customers' needs more effectively and resolve issues without waiting on advice or supply from overseas.

### **Ongoing research and development**

That many Thycon systems are still in operation after 30 years of service gives us no cause for complacency. We insist on staying ahead by investing over 10 percent of our total revenue in research and development.

New technologies are constantly being examined to update and improve products and manufacturing techniques and we offer excellent facilities for design and development, including simulation and modelling software, CAD systems, dedicated test bays and testing instrumentation.



ISO 9001:1994 certification



ISO 9001:2000 certification

**QUALITY AND RELIABILITY**  
**Quality assurance and quality manufacturing**

Quality assurance is intrinsic to Thycon. We conform to ISO 9001:2008 standards in our manufacturing processes and overall company operation.

Our management system has been defined by experienced personnel who develop, implement and monitor quality assurance procedures. Thycon production areas are clean room environments subject to temperature, humidity and dust monitoring and control. The same rigour is applied to the monitoring of materials and services provided by suppliers so that these also meet our quality system standards.

An experienced and expert Project Management team manages the installation of both standard products and special systems. Subcontractor arrangements, specification conformances and programmed deadlines are carefully controlled.

Customer satisfaction is our primary objective. Delivering the right products at the right price and on time is the way we achieve it.

**Quality approach**

Excellence in design, development, manufacture, installation, commissioning, service and maintenance of power quality and control products can only be based on a commitment to continuous improvement. Our aim is to achieve the highest level of product quality, reliability and safety, but we also know that this must be achieved at the lowest practicable cost.

**Quality systems**

We back up this approach by implementing quality management systems that comply with the requirements of ISO 9001:2008.

Thycon products are designed, manufactured and maintained to AS3901, ISO 9001 and power automation standards to ensure consistently high-levels of service and support.

Ingenuity, innovation and customer-focus are therefore embedded in our policies and procedures. They allow us to foresee and react quickly to the changing needs of industry.



*Product testing is intensive and encompasses individual modules as well as the final product.*

### **Comprehensive testing facilities**

Product testing is intensive and encompasses individual modules as well as the final product. It is supported by an exceptional range of manufacturing and testing equipment, which includes:

- deionised/EGW water cooling systems
- PCB component mounting equipment
- transformer steel cutting and punching machines
- unicon high-efficiency transformer steel bending and cutting machines
- foil and strip winding machines for manufacturing transformer coils
- foil and strip winding machines for manufacturing inductor coils
- transformer vacuum/impregnation systems
- automated digital testers
- automated electronic card testing facilities
- automated product testing facilities
- Tektronix digital oscilloscopes
- LEM thyristometer test equipment
- ABB thyristor test equipment
- Voltech harmonic voltage and current analysers
- ABB Servogors for multi-channel recording of voltage and current waveforms
- NORMA Power Analysers
- comprehensive test facilities, up to 10MVA of testing capacity

### **Quality suppliers**

Our suppliers are an integral part of our business. Where we can, we source our components and materials from Australian suppliers that we know and trust.

All suppliers are selected for their ability to satisfy our specific requirements and meet our quality system objectives.

### **Quality people**

In the end, no quality is possible without the right people to carry through on the program. Everyone, from administrative staff to expert engineers, is committed to constant improvement. This commitment is backed by intensive training and education within an environment of trust, respect, participation and recognition.



### **OUR PRIMARY FOCUS... CUSTOMER SATISFACTION**

Thycon's continuing success would be impossible without scrupulous attention to our customers' needs.

Like all Australian-owned manufacturing companies we are up against fierce international competition. Rather than offering best-fit generic solutions, we choose to meet that competition by giving our customers exactly what they want.

This policy applies as much to the design, development and manufacture of our equipment as to the support services we offer to maintain its high performance and extend its lifetime. Thycon's dedicated customer support services include preventive maintenance, round-the-clock remedial service, direct tele-monitoring, customer training programs and engineering advisory services

### **Australia-wide customer sales and support**

Offices in Melbourne, Sydney, Canberra and Perth ably support customers in need of a fast, flexible and competent response.

Thycon offers tailored maintenance programs to sustain the performance and increase the lifespan of your equipment. The programs can include 24-hour remedial service and support and a direct tele-monitoring facility to interrogate equipment performance remotely. Critical alarms are automatically transmitted to our service computer, thereby reducing service time and cost. A monthly report, detailing operational statistics, is available to keep customers up to date with their equipment performance.

#### ***24-hour, 365-day support***

Full telephone engineering support and advice is available to customers 24 hours a day, 365 days a year on the Thycon Technical Support Line.

This service is available free to customers covered by warranty or a maintenance agreement. Clients without an agreement receive assistance for a fee.

#### ***20-year life and support***

Thycon products are manufactured for a 20-year lifespan. We have stocking strategies in place to maintain adequate stock levels of all components and spare parts well into the future.

Technical support and spare parts are readily available from sales and service centres throughout Australia. This ensures minimal delay in meeting your service requirements.



*Thycon engineers and project managers are able to investigate your site conditions and offer advice and recommendations based on expert resources and years of company experience.*

### **Industry standard components**

Thycon equipment uses industry standard components available from multiple manufacturers so that spare parts can be sourced readily at lower cost.

To minimise MTTR for older equipment, we recommend that clients keep a stock of critical spares on site. Thycon can advise you which to stock.

### **Extended warranty options**

A lifetime extended warranty option maximises your investment opportunity and gives you the confidence of knowing your parts and labour cost will be covered totally for the period.

Warranty extensions covering parts and labour are available for new equipment installations. Contact Thycon for further information.

### **Customer training programmes**

Detailed operation and service documentation and customer training programs provide your technical staff with a thorough understanding of their Thycon equipment.

The training programs can be held at our facilities in Melbourne, or on site, and cover basic theory,

routine operation, maintenance, fault diagnosis and emergency shutdown.

Thycon engineers and project managers are able to investigate your site conditions and offer advice and recommendations based on expert resources and years of company experience.

Qualified personnel will supervise the delivery, installation and commissioning of all Thycon equipment.





**THYCON PRODUCT APPLICATIONS**

For 40 years, Thycon has provided Australian companies with power quality and control products for a range of applications. Our products represent solutions to:

- *power quality* issues such as voltage surges, sags, spikes, flicker, brownouts and blackouts; low power factor; high harmonics and severe notching
- *power control* requirements such as voltage, current and frequency conversion; power rectification, power inversion and high speed switching

**Power quality applications**

- Power protection for areas and facilities susceptible to voltage surges, sags, flicker, fluctuation, brownouts, blackouts, notching such as:
  - computer equipment
  - security systems
  - emergency lighting
  - fire alarms

- critical instrumentation
- factory automation
- power and energy saving

**Power quality products**

- Uninterruptible power supplies
- Static switches and interrupters
- Triplen harmonic eliminators
- Active harmonic filters
- Active power factor regulators
- Active voltage regulators
- Battery data loggers
- Triplen Power Distribution Units
- Multi Circuit Monitoring Systems
- Remote supervision software

**Power control products and applications**

*High power rectifiers for*

- DC arc furnaces
- electro-winning
- electroplating
- steel hardening
- aluminium anodising
- smelting
- traction systems

*Static frequency converters for*

- 50/60 Hz for ships and dock yards
- 50/400 Hz for aircraft
- building and factory power supplies
- power distribution

*Constant current regulators*

- constant current applications
- airfield lighting

*Static inverters*

- DC/AC inversion to any voltage and frequency

*DC intertie*

- allows connection of networks with different voltage, current or frequency and current control in both directions

*Cycloconverters*

- AC motors
- AC traction motors
- locomotive
- steel and paper mills
- rubber mixers

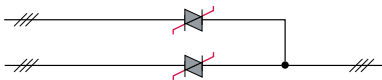
*Solid State Breakers*

*High speed Electronic Fuses*

*Solar Inverters*

*Peak Lopping Inverters*

## Power Quality



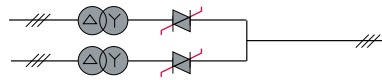
### Static transfer switch

- three-phase static switches
- ratings: 100 - 3000A



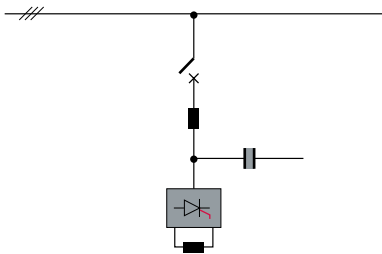
### Triplen transformer

- 3rd harmonic elimination transformer
- ratings: 10kVA - 2MVA



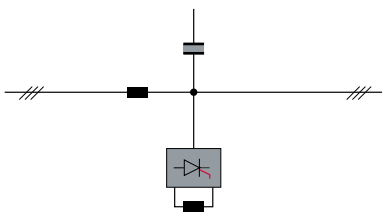
### Triplen static transfer switch

- static transfer switch with 3rd harmonic elimination transformer
- ratings: 100 - 3000A



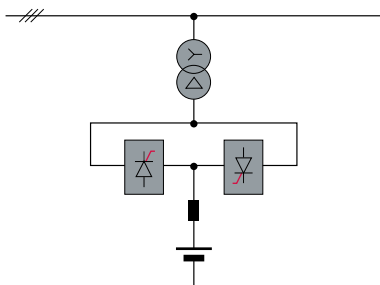
### Active power factor regulator

- user-settable active power factor regulation
- ratings: 100kVAr - 10MVAR



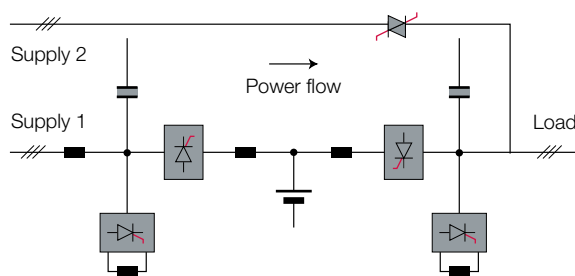
### Active voltage regulator

- lowpass filter and voltage regulator
- ratings: 100kVAr - 10MVAR



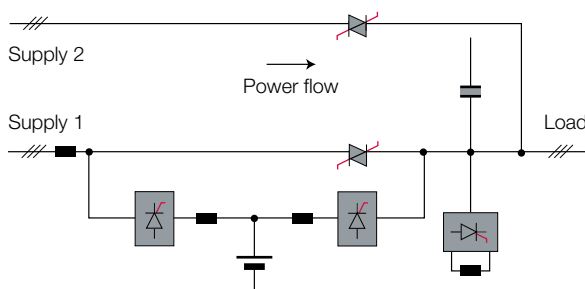
**Peak lopping inverters**

- battery storage of low cost energy and network injection during peak demand
- ratings: 1 - 10MVA



**UPS - double conversion**

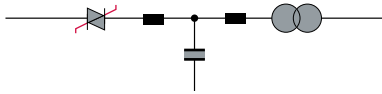
- optional active power factor regulation and harmonic filtering of supply
- output distortion <1%
- ratings: 10kVA - 10MVA



**UPS - line interactive**

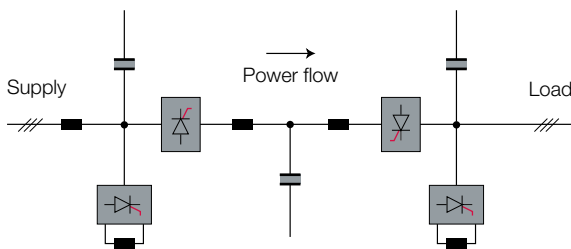
- active power factor regulation and harmonic filtering of supply
- output distortion <1%
- ratings: 10kVA - 10MVA

## Power Control



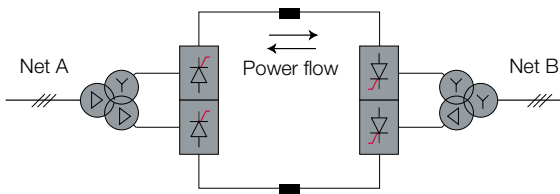
### Constant current regulators

- sinusoidal output current
- optional supply power factor >0.95 at all intensities
- ratings: 3kW - 100kW



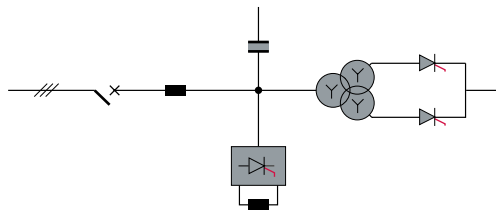
### Static frequency conversion and no-break power

- frequency converters 50/60 Hz, 50/400 Hz
- optional active power factor regulation and harmonic filtering of supply
- ratings: 10kVA - 10MVA



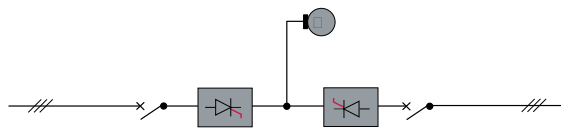
### Current inter-tie

- asynchronous voltage and/or frequency link
- ratings: 1 - 10MVA



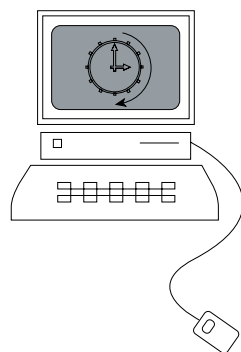
### High-current rectifiers

- optional active power factor regulation and harmonic filtering of supply
- rating: 5kA - 50kA



### DC drives

- rating: 10kVA - 10MVA



### 24-hour services

- power quality and control system advisory services
- extended warranty
- preventive maintenance
- remote monitoring







## **THYCON**

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