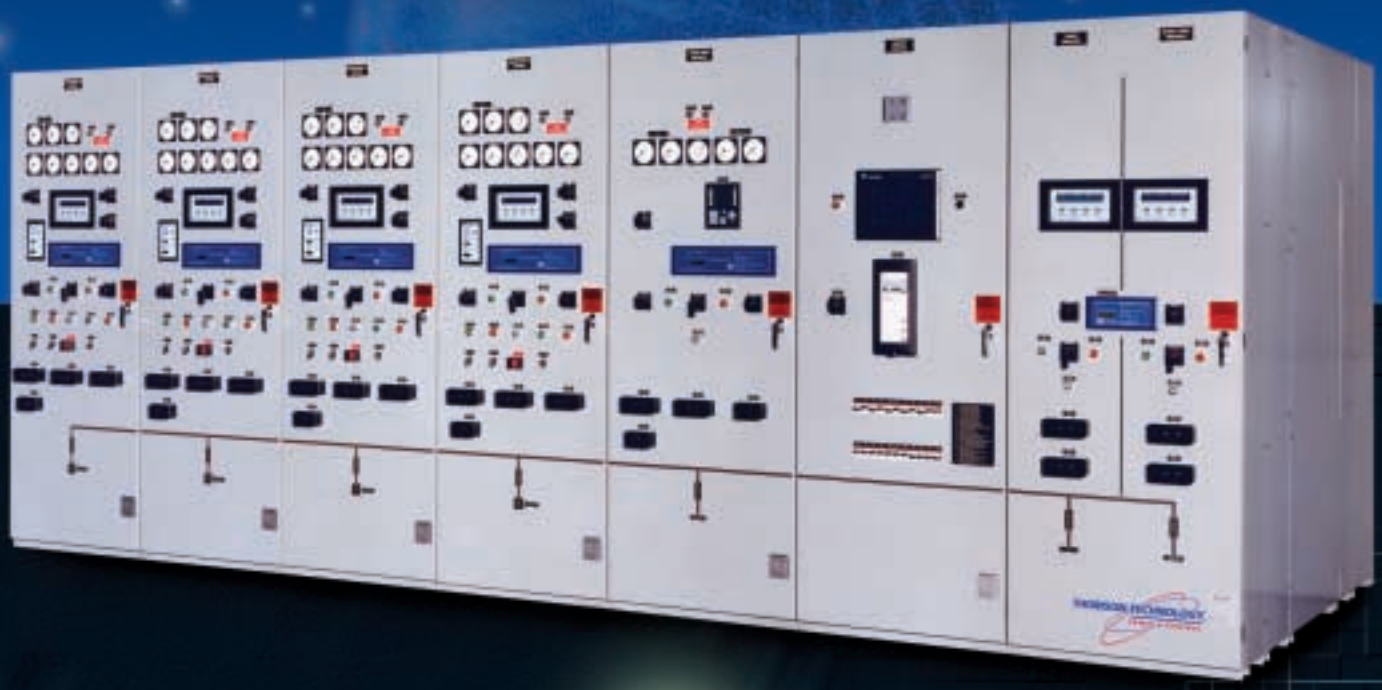


Power Generation System Solutions

THOMSON TECHNOLOGY®

A Subsidiary of Regal-Beloit Corporation

POWER & CONTROL

P R O V E N R E

Thomson Technology Inc. was formed in 1973 and is now one of the leading manufacturers of electrical products and systems for use in the Power Generation Industry. The Company specializes in the design and manufacturing of power generation controls and switchgear for low and medium voltage applications.

Thomson Technology Inc. provides their control systems to an ever-expanding customer base across the globe. From our roots in Western Canada, we have moved into the world market, serving customers in institutional, commercial, industrial, utility, and the military sector. Thomson Technology has three core factors which are the key to our successes:

- Ingrained quality control
- Customer focus and commitment
- Custom and standard engineered product designs

Our vision is to become a leading specialist in the design and manufacturing of power generation control products that deliver electrical power on demand.

QUALITY RELIABILITY & COMMITMENT

L I A B I L I T Y

Thomson Technology Inc. custom designs and manufactures switchgear systems to meet the stringent performance and reliability requirements of critical applications such as airports, healthcare, and communications facilities.

Engineering

Thomson Technology's engineering department consists of experienced engineers who are disciplined in either electrical, mechanical, or electronic hardware/software.

All designs are developed using CAD systems and follow strict design control methodologies in accordance with our ISO 9001 quality system. Designs are developed from a large database of engineered applications coming from over 25 years of direct field experience. For many applications, Thomson Technology's standard designs can be applied to meet client requirements.

Research & Development

Research and Development is a critical function of our engineering department. A significant portion of sales revenue is returned to R&D ensuring the company's continued leadership position. The R&D department has capabilities of electronic embedded control system design as well as electrical and mechanical design experience. Design input to R&D projects is obtained from market research as well as direct field experience from our service department.

Factory Field Service

Thomson Technology's reliable system design is supported by factory technicians and local factory trained service representatives who can be mobilized 24/7 to commission and service any of our systems around the world.

Sales Support

We have developed a team of highly skilled sales engineers and project managers who take pride in their workmanship by being involved with every project from start to finish and ensuring quality products are delivered to our customers.

Thomson Technology's system engineering design capability, production capability, and field service expertise combine to provide our customers with quality, state-of-the-art systems that work.

Our people… are at the heart of what we do.

quality people

quality engineering

quality products

Standards:

All of Thomson Technology's products are certified by OSHA's nationally recognized testing laboratories: the Canadian Standards Association (CSA) and the Underwriters Laboratories (UL).
Our systems and products meet or exceed applicable UL, CSA, and IEC standards and can be supplied to meet other appropriate standards.

For offshore contracts or marinized applications, specific standards such as Lloyds, DNV, or ABS can be applied to meet your project needs.

Quality Assurance:

For over 25 years Thomson Technology has used internal quality programs to help exceed our customer needs for product quality, service, and support.

Our QA programs have enabled us to supply equipment to the Department of National Defence and the Ministry of Transport certified to NATO standards, level AQAP-9 and AQAP-4, and to CSA Standard Z299.3. ISO 9000 QA registration has become the standard for quality assurance program recognition around the world today. Thomson Technology is an ISO 9001 registered company, and this registration reflects on our long-established QA policies.

Product Certification

Switchgear
- UL 891
- UL 1558
- CSA C22.2 #31
- ANSI C37.20.1
- ANSI C37.20.2

Industrial Control Equipment
- UL 508
- CSA 22.2 #14

Automatic Transfer Switches
- UL 1008
- CSA C22.2 #178

SYSTEM 2000

Product Family Introduction

DG

DISTRIBUTED GENERATION (DG) APPLICATIONS GCS 2000-DG

PP

PRIME POWER (PP) APPLICATIONS GCS 2000-PP

AS

AUTO STANDBY (AS) APPLICATIONS GCS 2000-AS

The System 2000 family of switchgear products are divided into three application groups:

- Distributed Generation (DG)
- Auto Standby (AS)
- Prime Power (PP)

All three groups of switchgear are designed for single or multiple generator applications and are available from 208V through 15kV.

Many switchgear regulatory standards are available for specific applications:

- UL 891
- UL 1558
- CSA C22.2 #31
- ANSI C37.20.1
- ANSI C37.20.2

DISTRIBUTED GENERATION

DG

DISTRIBUTED GENERATION

Distributed Generation Switchgear Systems

Distributed Generation Switchgear Systems provide the capability of synchronizing single or multiple generators to the utility grid to allow soft load transfer, parallel generation, peak shaving, or co-generation operation. These systems incorporate control logic & software programming for automatic synchronizing, soft load transfer and automatic load (kilowatt) and VAR/PF control. GCS 2000 - DG systems may also incorporate a variety of industry standard communications for remote monitoring, control, and datalogging.

GCS 2000-DG group encompasses systems for:

- Parallel Generation - Uninterrupted Power Transfer (PG-UPT®),
- Cogeneration (Co-Gen)
- Peak Plus

GCS 2000-DG systems are designed to automatically synchronize generators to the utility to allow soft load peak shave or cogeneration operation without compromising the emergency standby feature of the gen-sets.

GCS 2000-DG switchgear can be customized to meet your specific, utility interconnection needs, providing a cost-effective solution to limit demand charges applied by the utility. GCS 2000-DG controls can be added to existing installations to convert your standby gen-sets (which have traditionally been a capital cost burden) into a true asset for your facility.

PG-UPT, Co-Gen, and Peak Plus Systems are designed for new or existing installations.

GCS 2000 - Peak Plus switchgear is designed for installations where it is not physically or economically feasible to replace an existing transfer switch. The switchgear is used as an addition to your open-transition transfer switch. Controls include a "wrap around" power circuit breaker on the emergency bus of the transfer switch. This allows the generator to be operated in parallel with the utility for peak shave, parallel generation operation or uninterrupted load testing, without compromising the functionality of the transfer switch.

Parallel Generation and Peak Plus systems may be supplied with a utility import-monitoring feature to automatically initiate peak shaving. Alternatively, a remote signal from a SCADA or Building Automation System (BMS) can be used to initiate load management on demand.

GCS 2000-DG Switchgear with PG-UPT or soft loading controls can be used in hospitals, data centers, fiber optic hubs, and internet switching hotels, enabling your standby generators to provide uninterrupted power transfer. GCS 2000-DG switchgear with co-gen controls can be used with gas turbines or natural gas reciprocating engines in cogeneration applications such as land fills, sewage treatments, greenhouses, or anywhere heat may be recovered to increase overall efficiency .

AUTO STANDBY

AS

AUTO
STANDBY

Auto Standby
Switchgear Systems

Automatic Standby Switchgear Systems provide control of single or multiple generator sets to provide automatic standby power during a utility power failure. Auto standby switchgear can be designed with an integral transfer system between the utility supply and emergency bus. It can also work with an external distributed transfer switch scheme.

Many standard transfer control schemes are available. Manual synchronizing is provided in the event of failure of the automatic controls. Load demand starting can be incorporated to maintain optimal efficiency and reliability of your gen-sets during a power failure. Load management schemes can be provided to prevent your system from being overloaded, resulting in costly and dangerous downtime.

PRIME POWER

PP

PRIME
POWER

Prime Power Switchgear Systems

Prime Power Switchgear Systems provide power and control for applications where local utility is unreliable, unavailable, or uneconomical to install. Prime power sites require unique control solutions because of their critical nature. These systems can incorporate automatic synchronizing, soft transfer, fuel economizing, or run time hour balancing. The systems can also be provided with modem communication for remote monitoring, control, and datalogging, as well as alarming.

Applications include:

- Marine - on board power generation
- Village or island applications - system acts as the utility
- Mining, offshore platforms, gas plants, and remote refineries - providing on-site power for production.

In locations such as remote mining or gas plant operations, utility power is nonexistent. A multiple-unit, auto-synchronizing system will provide continuous reliable power for site operations and production systems. The system can control multiple units for auto sequencing, load sharing, auto-synchronizing, and protection. The controls can automatically start and stop generators as required, based on plant demand, thereby improving system downtime and facilitating maintenance.

Thomson Technology's Marine Switchgear is designed to meet the additional requirements of the applicable marine standards such as Lloyds, DNV, or ABS. These standards deal with issues like extended temperature ranges, vibration, serviceability, and fire proofing.

THOMSON TECHNOLOGY®
POWER & CONTROL


PROVEN RELIABILITY
POWER
and
CONTROL
THOMSON TECHNOLOGY
POWER & CONTROL

SYSTEM 2000

Product:
GCS 2200 MV-CG
(15kV switchgear and controls)

Project:
Co-Generation Power Plant

Site Location:
Valley Medical Center
Renton, WA USA

Description:
4 x 900kW, 15kV rated
Natural Gas Generators

Product:
GCS 2200-MV-DG
(5 and 15kV switchgear
and controls)

Project:
Distributed Generation -
Peaking System and
Uninterrupted
Power Transfer

Site Location:
South Peel Water Supply
Region of Peel, ON Canada

Description:
10 x 1350kW, 5kV
and 15kV rated
Diesel Engine Generators

Product:
GCS 2100-DG
(400V distributed
generation controls)

Project:
Utility Parallel Generation and
Uninterrupted Power Transfer

Site Location:
Hong Kong International
Airport, Hong Kong PRC
Airfield Lighting

Description:
2 x 800kW, 400V rated
Diesel Engine Generators

SWITCHGEAR AND CONTROL

Product:
GCS 2200-PP-AS
(600V prime power auto-sync and ship distribution, 600V switchgear and controls)

Project:
Auto Sync Prime Power Plant - 3 vessels
532 DWT / Aluminum Hull Catamaran

Site Location:
BC Ferries
Vancouver, BC Canada

Description:
4 x 190kW, 600V rated Diesel Engine Generator per vessel

Product:
GCS 2200-AS
(480V and 600V switchgear and controls and automatic transfer switches)

Project:
Automatic Standby (Synchronized)

Site Location:
Fiber Optic Telecom sites - Hibernia
Halifax, NB Canada
and Boston, MA USA

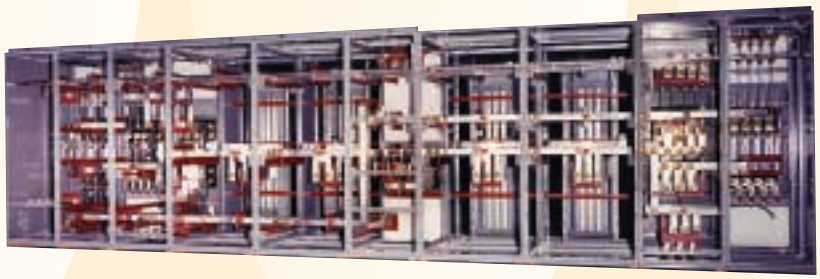
Description:
3 x 1600kW, 480V/600V rated Diesel Engine Generator

Product:
GCS 2200-DG
(480V switchgear and controls)

Project:
Distributed Generation

Site Location:
Madison Gas and Electric
Madison, WI USA

Description:
4 x 800 kW, 480V rated Diesel Engine Generator



reliable people

reliable engineering

reliable products

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• Partners in Power •

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THOMSON TECHNOLOGY®
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POWER & CONTROL

CLO50 Rev.0 01/12/01

• Request additional information or specifications on any of the System 2000 products from your local Thomson Technology office, agent or distributor. PG-UPT® is a registered trademark of Thomson Technology Inc.

NOTE: Specifications subject to change without notice.