

# Siemens Energy GCS

Control & monitoring system for  
Siemens Energy gas engines & gen-sets

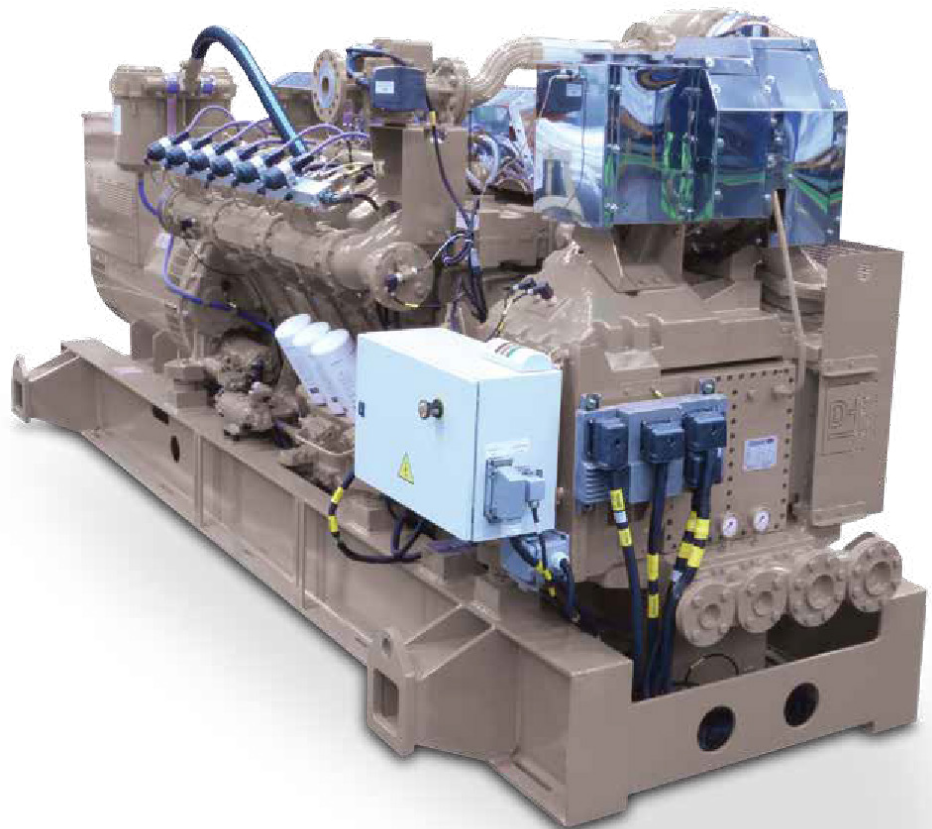
# Why Siemens Energy engines?

## High performance eco-friendly engines

Our commitment is to design and manufacture robust and high performance engines & gen-sets, with a low life-cycle cost focus and in compliance with the strictest environmental requirements.

Siemens Energy offers a comprehensive product portfolio between 200 Kwe up to 2 Mwe through different product families and suitable for all sort of different fuel gases.

Siemens Energy develops unique client intimacy to assure the product fully fits with client needs and requirements. Siemens Energy engines operate in more than 40 countries.



SGE-42HM with GCS-E installed.

# GCS

## Control & monitoring system for Siemens Energy gas engines & gen-sets

At Siemens Energy we go one step further to offer the best products and services to our clients. That is why we introduce our Control Systems to all our engines.

Control Systems GCS are the result of implementing the most technologically advanced engine, gen-set and power plant control management systems to optimize performance.

You can now control and monitor your plant, while maximizing equipment efficiency with Control Systems.

The GCS control system comprises:

- The whole Engine parameters control
- The alarms management
- It supports the following interface protocols: Modbus TCP, CAN J1939, CANopen
- Unique diagnostics and trending software

### Main features / benefits

#### “GCS reduces complexity at competitive integration costs”

- Real-time connection to the engine, gen-set or power plant
- Ethernet connection possible for remote support
- Emails warning reports
- Detailed diagnostics troubleshooting
- One hardware platform and single service tool
- Simplifies installation and commissioning
- Quick intervention in case of any variations of the controlled parameters set
- GCS reduces complexity at competitive integration costs

### GCS-E

- GCS-E governs the engine unit.
- Autonomous engine control
- Plug & Play system
- Simplifies installation and commissioning

The control onto the engine GCS-E captures the following parameter:

- Ignition
- Ignition and timing; emissions control
- Knocking detection
- Carburation
- Speed /load control
- Protections
- Pre-lubricating/starter
- Pre-heating (Water/Oil)

### GCS-G

- GCS-G governs the engine-alternator (gen-set) unit
- Applicable to any range of generators, frequency (50/60Hz) and voltage
- It controls up to 3 gen-sets working together, in island and sharing load, being also able to control the plant grid switch

The control GCS-G captures the following parameter:

- Alternator
- Synchronization
- Gas ramp
- Batteries charger
- Cooling control
- Thermal recovery
- Auxiliary equipment status
- Power output

### GCS-P

- GCS-P governs the different elements of the power plant
- GCS-P system controls the GCS-G gen-sets when > 3 gen-sets operate in island mode or a complex installation is required
- GCS-P system governs:
  - GCS-G units as the master of the gen-sets
  - The operation of the grid switch
  - Co-generation machines
  - Additional ancillary operations

## GCS system

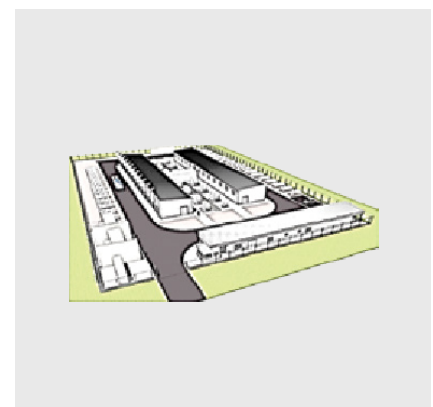
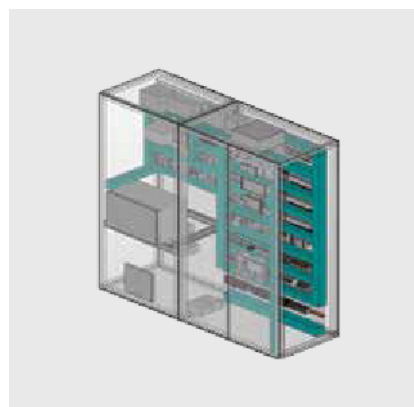
GCS-E engine



GCS-G gen-set



GCS-P plant



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