TAKE A CLOSER LOOK AT SICES GEN-SET CONTROLLERS

Discover our product range and find your ideal solution

SICES®
Empowering your control

WHY SICES

Since 1977, **SICES** have designed and manufactured gen-set controllers and power solutions for all types and makes of gen-sets, from their headquarters in Italy.

In the early 80's we were among the first pioneers to develop Synchronising and paralleling controller incorporating microprocessors, and now **SICES** is one of the best-known names for gen-set controls and their management.

Today, our global market demands quality and reliability – more than 40 years of experience and innovative development justifies the **automatic 5-year warranty** on our products.

The **SICES** brand offers a range of exceptional and dependable gen-set control solutions and services, suitable for a wide variety of applications.

Whether gen-set controller, monitoring system or power solution then **SICES** will apply expertise and knowledge to meet your requirements.

Our consultants will help you to transform your ideas into reality, our design team will work with you to create innovative and practical solutions, and from conception to activation every step of your project will be executed by one of our skilled engineers, supported by our qualified and experienced team.

SICES also offers aftercare and service contracts strengthening our commitment to you.

Quality products made in Italy.

OUR LOCATION

SICES operates from Jerago con Orago (Varese) in Italy.

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5 YEAR WARRANTY

At SICES, with over 40 years of experience with critical power generation projects, we have learnt a thing or two about quality. We know that the cost of our controller may be irrelevant compared to the cost of failure on site.

With this experience, we ensure all our products have passed stringent Quality Assurance checks during design approval and production. In addition we also subject them to a unique and arduous 48 hour cyclic burn-in test, to weed out possible early life failures, which could otherwise happen in the field.

We design and build the SICES controllers to last, giving many years of worry free service. This is not an empty promise and most SICES controllers come with a 5 year warranty* which guarantees against component failure and manufacturing defects. Quality products made in Italy.

* See separate warranty statement for details.

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GEN-SET CONTROLLERS

GEN-SET CONTROLLERS

The **SICES** range of gen-set controllers are suitable for single standby applications.

GC250

Compact AMF and AutoStart gen-set controller with 3 phase (RMS) mains voltage and 3 phase (RMS) generator voltage and current monitoring. Integrated J1939 Canbus interface to electronic engines.

- Size 140×112×41 mm (Cut-out 118×92 mm)
- 2 Alternative Configurations
- Low power “deep standby” mode

4 Digital inputs

6 Digital outputs (2×10A, 4×500mA[+])

3 Analogue inputs D+ terminal

AND/OR logic control

64 Event history log with 106 record data-log

USB

GC315

Capable AMF and Autostart gen-set controller with 3 phase (RMS) mains voltage and 3 phase (RMS) generator voltage and current monitoring. Integrated J1939 Canbus interface to electronic engines. Extensive Input and output capability with optional communication interfaces (plus and Link versions), make this an extremely powerful single gen-set controller. A version with built in GPRS/GPS tracking (GC315link) is particularly suited for mobile or rental applications, where asset tracking and monitoring is required.

- Size 244×178×40 mm (Cut-out 218×159 mm)
- 4 Alternative configurations
- Expandable I/O including 4 Analogue outputs

8 Digital inputs emergency stop input (expandable+32)

8 Digital outputs (2×3A, 2×10A c/o, 4×500mA[+]) (expandable+32)

3 Analogue inputs D+ terminal and MPU (expandable+4 and+6 thermocouples)

AND/OR logic control

126 Event history log with 106 record data-log

USB

16/4 Calendars/timers

RS232

RS485

Ethernet connection (plus version)

GPRS/GPS (link version)

ATS CONTROLLERS

The **SICES** ATS controllers are designed for use in applications where the transfer switch is separate from the generator controller.

ATS115

Automatic transfer switch controller with 3 phase (RMS) mains voltage and 3 phase (RMS) generator voltage and current monitoring. Extensive Input and output capability with optional communication interfaces (plus versions), this ATS controller is suitable for operation with two different power sources.

- Size 244×178×40 mm (Cut-out 218×159 mm)
- 4 Alternative configurations
- Expandable I/O including 4 Analogue outputs

8 Digital inputs emergency stop input (expandable+32)

8 Digital outputs (2×3A, 2×10A c/o, 4×500mA[+]) (expandable+32)

3 Analogue inputs D+ terminal and MPU (expandable+4 and+6 thermocouples)

AND/OR logic control

126 Event history log with 106 record data-log

USB

16/4 Calendars/timers

RS232

RS485

Ethernet connection (plus version)

GPRS/GPS (link version)

HYBDRID CONTROLLERS

The **SICES** Hybrid controller has been designed to control DC generators typically used in Telecom applications and is able to monitor the load and battery levels, as well as manage the automatic stop/start of the gen-set.

HS315

Aims to minimise generator run time and optimise both fuel consumption and running hours. HS315 features whole site voltage and current monitoring with the ability to communicate with smart batteries.

- Size 244×178×50 mm (Cut-out 218×159 mm)
- 8 AC/DC Voltage measuring inputs
- 4 DC current measurement inputs (SHUNT or optional Hall-effect)
- 1 PT100 Battery temperature input
- 4 Alternative configurations
- 31 Recorded Charge/Discharge cycles
- Smart Battery Modbus communications

12 Digital inputs emergency stop input

12 Digital outputs (2×3A, 2×10A c/o, 8×300mA[+])

3 Analogue inputs D+ terminal and MPU

1 Analogue outputs speed (PMG) or voltage (AVR) controlled battery charging

AND/OR logic control

126 Event history log with 106 record data-log

USB

16/4 Calendars/timers

USB/RS232

RS485

Ethernet connection

GPRS/GPS (Link version)

PLC Logic control (64 Kb PLC memory and 512 bytes RAM)

GEN-SET CONTROLLERS

PARALLEL GEN-SET CONTROLLERS

The **SICES** range of parallel controllers are suitable for use in gen-sets working in parallel mode for both emergency and power production applications.

GC400

Competitive Parallel controller for applications with either multiple gen-sets (GC400) running in parallel either islanded or in parallel with a mains supply, or single sets (GC400mains) running in parallel with a mains supply. A version with built in GPRS/GPS tracking (GC400link) is particularly suited to mobile and Rental applications where multi-set parallel operation is required.

- Size 244×178×40 mm (Cut-out 218×159 mm)
- 4 Alternative configurations

8 Digital inputs
emergency stop input
(expandable+32)

8 Digital outputs
(2×3A, 2×10A c/o,
4×500mA[+])
(expandable+32)

3 Analogue inputs
D+ terminal and MPU
(expandable+4
and+6 thermocouples)

2 Analogue outputs
+/- 10V for speed
and voltage control
(expandable+16)

AND/OR
logic control

126 Event history log
with 106 record data-log

USB

RS232

RS485

Ethernet connection

GPRS/GPS
(link version)

MC400

The MC400 controller is used were one or more mains supplies are required to parallel with the GC400 generator bus.

- Size 244×178×40 mm (Cut-out 218×159 mm)
- 4 Alternative configurations
- Works with GC400

8 Digital inputs
emergency stop input
(expandable+32)

8 Digital outputs
(2×3A, 2×10A c/o,
4×500mA[+])
(expandable+32)

3 Analogue inputs
D+ terminal and MPU
(expandable+4
and+6 thermocouples)

2 Analogue outputs
+/- 10V for speed
and voltage control
(expandable+16)

AND/OR
logic control

126 Event history log
with 106 record data-log

USB

RS232

RS485

Ethernet connection

GC600

The highly capable GC600 parallel gen-set controller is extremely well featured for parallel applications, it includes a large PLC to ensure customers´ onsite application requirements can be fully met. A large full colour display makes these controllers suitable for a wide range of applications while presenting operating status in a clear easy to view format. The GC600 mains has all the features of the GC600 with an additional dedicated Mains Breaker control pushbutton.

- Size 244×178×83 mm (Cut-out 218×159 mm)
- 4.3” Colour TFT display
- 4 Alternative configurations
- Expandable I/O

18 Digital inputs
emergency stop input
(expandable+64)

18 Digital outputs
(2×3A, 2×10A c/o,
4×500mA[+], 9×280mA[-]
and 1×280mA[-] hardware
watchdog output).
(expandable+64)

6 Analogue inputs
(including 2×differential
inputs and D+ terminal
and MPU (expandable+2)
and+8 thermocouples)

2 Analogue outputs
+/-10V for speed
and voltage control
(expandable+16)

AND/OR
logic control

537 Event history log
with 537 record data-log

USB

RS232

RS485

Ethernet connection

PLC Logic control
(64 Kb PLC memory
and 512 bytes RAM)

PWM output

16 Calendars

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PARALLEL GEN-SET CONTROLLERS

MC200

The MC200 controller is used were one or more mains supplies are required to parallel with the generator bus, it also features a powerful PLC to ensure site specific design details can be accommodated. A large full colour display presents operating status in a clear easy to view format. A generous input and output capability with the ability to add expansion where needed, means complex sites can be tackled with ease.

- Size 244×178×83 mm (Cut-out 218×159 mm)
- 4.3” Colour TFT display
- 4 Alternative configurations
- Expandable I/O

18 Digital inputs emergency stop input (expandable+64)

18 Digital outputs (2×3A, 2×10A c/o, 4×500mA[+], 9×280mA[-] and 1×280mA[-] hardware watchdog output). (expandable+64)

6 Analogue inputs (expandable+20 and+30 thermocouples)

2 Analogue outputs +/-10V (expandable+16)

AND/OR logic control

537 Event history log with 537 record data-log

USB

RS232

RS485

Ethernet connection

PLC Logic control (64Kb PLC memory and 512 bytes RAM)

16 Calendars

BTB200

The BTB200 controller provides the ability to control a bus tie breaker, for applications were it is necessary to divide the common bus during certain operating conditions. A large full colour display makes presents operating status in a clear easy to view format. Combined with generous input and output capability with the ability to add expansion where needed, means complex sites can be tackled with ease.

- Size 244×178×83 mm (Cut-out 218×159 mm)
- 4.3” Colour TFT display
- 4 Alternative configurations
- Expandable I/O

18 Digital inputs emergency stop input (expandable+64)

18 Digital outputs (2×3A, 2×10A c/o, 4×500mA[+], 9×280mA[-] and 1×280mA[-] hardware watchdog output). (expandable+64)

6 Analogue inputs (expandable+20 and+30 thermocouples)

2 Analogue outputs +/-10V (expandable+16)

AND/OR logic control

537 Event history log with 537 record data-log

USB

RS232

RS485

Ethernet connection

16 Calendars

DST4602 EVOLUTION

Highly Advanced Parallel controller with large full colour display. Capability is guaranteed with the large PLC and extensive input and output specification. Complex monitoring of Co-generation (CHP) equipment can be achieved with ease, as can complex multiple parallel applications. The no compromise design has a robust metal case and includes the option of secure key-switch or pushbutton control. Available as either a single box “compact” version or two box “SCM”+“HMI” version, makes the DST4602 Evolution a controller of choice when customer requirements need to be accommodated.

- Size 260×202×86 mm (Cut-out 240×172 mm)
- 7” Colour TFT display
- Available as either a single box “compact” version or two box “SCM”+“HMI” version
- Metal casing
- Expandable I/O with dedicated expansion Can-bus
- Remote display option
- Option of Key-switch control or pushbutton control
- D-Pro protection relay Can-bus connection

20 Digital inputs (expandable+160)

16 Digital outputs (2×4A, 2×10A c/o, 8×350mA[-], 2×1A, 2×2.5A), (expandable+160)

5 Analogue inputs D+ terminal and MPU (expandable+48)

2 Analogue outputs +/-20mA or +/-20V for speed and voltage control (expandable+32)

AND/OR logic control

860 Event history log with 860 record data-log

USB

16/6 Calendars/timers

RS232

RS485

Ethernet connection

PLC Logic control (128 Kb PLC memory and 1024 bytes RAM)

GEN-SET CONTROLLERS

1 Digital outputs (1A c/o)

RS485 (1 remote)

Ethernet connection (up to 4 remotes)

DST4602 REMOTE

An additional remote display and control location for DST4602 Evolution controllers. Up to 5 remote locations can be fitted to the DST4602 Evolution controller.

- Size 260×202×86 mm (Cut-out 240×172 mm)
- 7” Colour TFT display
- Metal casing
- Option of Key-switch control or pushbutton control

RS485

Ethernet connection

D-MONITOR

Full colour touch screen for visualisation of the controller. Particularly suitable for Co-Generation (CHP) plants where it is required to visualise and control both electrical and thermal performance of the system.

- Connection to the DST4602 Evolution is via either RS485 or Ethernet Modbus TCP/IP connection
- Available in either 12.1” or 15.6” sizes

COMMUNICATION DEVICES

8 Digital inputs

2 Digital outputs

RS232

USB

RS485

GPS built in

REWIND

GPRS/GSM and GPS interface module for the communication with the monitoring system SIMONE and SICES Supervisor.

- GPRS/GSM communications
- Canbus Port
- Analogue 0-5 V Fuel level input
- Integral accelerometer and Gyroscope
- Internal battery in the event of removal of external DC supply
- Supports all SICES Generator controllers
- Supports a wide range of third party devices, including most commonly used generator controllers
- Can be used stand alone using conventional inputs and outputs
- Designed for use with SI.MO.NE cloud based monitoring system
- Advanced tracking solution

8 Digital inputs

2 Digital outputs

RS232

USB and miniUSB serial ports

RS485

Ethernet connection

DANCE

Ethernet Modbus TCP/IP interface device for the communication with the monitoring system SI.MO.NE and SICES Supervisor.

- Built in Webserver

MONITORING SYSTEMS

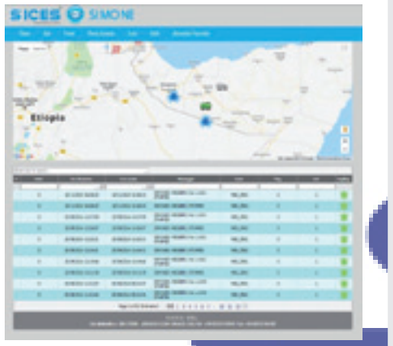
SI.MO.NE

Cloud based monitoring system using Ethernet or GPRS connection from remote equipment. Suitable for monitoring of rental fleets, Co-generation (CHP) installations or other widely distributed plants.

The system features advanced GPS tracking of equipment in addition to remote monitoring and alarm notification.

The SI.MO.NE system is suitable for monitoring Generating sets, fuel tanks and other plant. It interfaces with SICES Controllers and many other commonly used gen-set controllers.

Users can choose to use either the common SICES hosted server or host their own.



List of Supported Controllers in SI.MO.NE and REWIND2

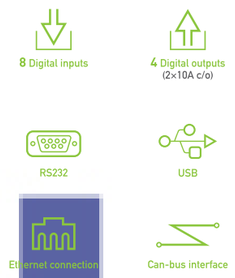
- SICES DST4400, DST4601/PX, DST2600, GC310, GC350, GC500, DST4602
- SICES ATS115, GC315, GC400, GC600, DST4602Evolution
- DSE 5210, 7320, 7510, 5510
- IME NemoD4
- ComAp IL-NT AMF25, IG-NTC BB
- Elcos CAM-120
- Cummins PCC 2.xx 3.xx, MCM3320
- Powernet M200
- Deif AGC3
- Woodward EasyGen 3200
- Caterpillar EMCP3, EMCP4
- Lovato RGK800

SICES SUPERVISOR 3

System monitoring and SCADA PC software. Allows monitoring of the power generation plant either locally or remotely. The fully configurable software allows the user to view the plant single line diagram, control the operation of breakers and generating sets. Alarm monitoring, diagnostics and trends can be reviewed to streamline operations and aid fault finding.

ACCESSORIES

PROTECTION EXPANSIONS



D-PRO

Multifunction protection relay used to provide additional protection to installation in more demanded applications such as Medium or High voltage or Oil & GAS installations. D-Pro features a Can-bus connection to integrate it into a DST4602 Evolution based control system, or alternatively it can be used stand-alone connecting to the control system via its Relays and Inputs.

Size 141×113×39 mm (Cut-out 118×92 mm)

Protection code	Description
-	Low power supply voltage
-	High power supply voltage
27	Under voltage
27T	Under voltage (voltage dependant trip delay)
32P	Maximum exported active power
32RP	Maximum imported active power
32Q	Maximum exported reactive power
32RQ	Maximum imported reactive power
40	Loss of Excitation
46	Reverse Phase Current
47	Wrong phase sequence
50	Instantaneous overcurrent
50N	Neutral Instantaneous overcurrent
50V	Overcurrent (voltage dependant trip threshold)
51	Overcurrent (current dependant trip delay)
51N	Neutral overcurrent (current dependant trip delay)

- 3 Phase Voltage input
- 1 Residual Voltage input
- 6 Current Inputs
- 1 Auxiliary Current Input
- 1 Auxiliary Toroid Current Input
- Can-bus connection to DST4602 Evolution

ACCESSORIES

I/O EXPANSION MODULES

DITEL

16× Input and 8× Output (1A C/O) expansion module for use with supported SICES controllers.

DITHERM

3× Thermocouple expansion module for use with supported SICES controllers.

DIVIT

4× Analogue Voltage and current module for use with supported SICES controllers measures signals 0–5 V, 0–10 V and 0–10 mA, 0–20 mA.

DIGRIN

3× PT100 expansion module for use with supported SICES controllers.

DANOUT

4× analogue output module with ModBus RTU/CanBus protocol connection, use with SICES controllers or stand alone.

OTHER ACCESSORIES

CANBRIDGE

The **CANBRIDGE** allows load sharing between gen-sets over long distances, or as CanBus isolator to increase the number of CanBus connected devices in a system. It also can be used to design a redundant system to guarantee back-up line for load sharing. The Ethernet version of **CANBRIDGE** also enables monitoring of mains levels via IEC 60870-5-104 connection.

MARINE CERTIFIED CONTROLLERS

GC350-R

- An advanced marine certified gen-set controller with extensive configurability suitable for use in stand-by gen-sets
- Size 244×178×85 (Cut-out 218×159)
- Ground fault protection (51N)
- Additional RS232 or RS485 serial port
- Expandable I/O
- RINA Marine certification

18 Digital inputs
18 Digital outputs (4×3A, 12×1A, 2×10A c/o)
3 Analogue inputs
RS232
Can-bus interface J1939
99 Event history log with 78 record data-log

GC500-R

- Marine Certified gen-set controller for parallel marine applications
- Size 244×178×85 (Cut-out 218×159)
- Ground fault protection (51N)
- Additional RS232 or RS485 serial port
- Expandable I/O
- RINA Marine certification

18 Digital inputs
18 Digital outputs (4×3A, 12×1A, 2×10A c/o)
3 Analogue inputs
2 Analogue outputs
RS232
Can-bus interface J1939
99 Event history log with 78 record data-log
PWM output

POWER SOLUTIONS

A strong technical background and substantial experience in control systems. From standard control panels up to complete customized solutions. SICES designs innovative and practical solutions. Every step of your project will be executed by our skilled engineers.

- Standard control panels/ATS
- Customized solution
- Co-generation projects
- Oil and gas projects
- Hybrid plants
- Electric distribution panels
- MV+HV Systems
- “Ex” classified explosion proof panels

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ELGIN FRANKLIN
OFFSHORE FIELD – UK, NORTH SEA

“The world’s largest high-pressure/high-temperature gas condensate reservoir development.”
Location: UK, North Sea

SICES designed and manufactured two off customized control panels for both emergency gen-set control and Fire and Gas protection – One for each platform. Each control panel is equipped with an DST4602 Evolution advanced multiple paralleling gen-set controller, 4 battery chargers and several expansion modules.

SEYCHELLES
INTERNATIONAL AIRPORT

“More than 370 000 passengers are visiting the paradise islands of Seychelles per year, let’s keep them flying.”
Location: Island of Mahé

SICES entered a project to upgrade the controls on 3× 315 kVA standby gen-sets to operate in conjunction with the additional 2× 810 kVA standby sets.
A total of 3× DST4602 Evolution were used for the generator control with 3× DST4602 Remote displays and 15” D monitor touch screen in the remote monitoring location. 2× ATS115 controllers controlled the changeover switches in the event of mains failure.

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ISTANBUL METRO

“The deepest underwater subway, under the world’s busiest shipping lanes.”
Location: Istanbul, Turkey

This complex civil engineering project requires construction of a tunnel under one of the worlds business shipping channels, joining two continents and be able to withstand a severe earthquake up to 9 on the Richter scale. SICES designed, manufactured and commissioned 4 separate sites for the project, 2 sites with 3× 1730 kVA MV diesel sets in parallel and 2 sites with 5× 2000 kVA MV diesel sets in parallel using DST4601/px controllers.

MOSE PROJECT

“That‘s because MOSE is currently the most massive public works project in the entire world.”
Location: Italy, Venice

An Innovative system of 78 pneumatically operated gates installed at the 3 inlets connecting the Venice Lagoon and the Adriatic Sea and able to temporarily isolate the Venetian Lagoon from the Sea during high tides. SICES designed, manufactured and tested a customized control system using SICES DST4602 and D-monitor for the twelve gen-sets used to power the massive compressors needed to raise the gates.

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CONTACT US

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