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ISO 9001



SDMO Industries
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PPREX/GB-2009/1
Exel
Power Products
715kVA - 3300kVA
700kWe - 3200kWe



Global Power
Solution™

A powerful response

SDMO is recognised as one of the top manufacturers of generating sets in the world. SDMO has channelled all its energy into designing a range which is both highly competitive and high-performance, the largest range available on the market. As a response to the increasingly precise nature of your energy requirements, which relate directly to the special traits of your particular industry, SDMO is devoting the majority of its resources to the continuous improvement of its range and services.

The result of a strategy focussed on a single industry: exacting professionalism which provides you with a reliable source of energy, complying with the strictest of standards. The pioneering mindset of its teams, and the mastery and flexibility of its production methods mean that SDMO is constantly innovating. The proximity of its distribution network and the dynamism of its customer services policy enable SDMO to be a powerful force and provide the basis of the company's values.

**SDMO, the source of energy for your comfort and safety.
SDMO, providing the energy that links mankind.**

whatever the energy required



www.sdmo.com

Whether you require emergency power to be able to cope with potential power cuts (e.g. hospitals, shopping centres) or continuous power when conventional electrical grids are faulty (power plants), SDMO will be able to offer you performance products from a large range which meets all the requirements of different markets.

This range comprises 3 main categories:

- **Standard products** (Portable Power, Residential Power, Power Products and Rental Power)
- **Expertise and Services** (Power Solutions, Training, Spare Parts, Technical Assistance)
- **Related products** (Nexys, Telys, Keyis, command/control units)

National coverage, international presence, "think globally, act locally"

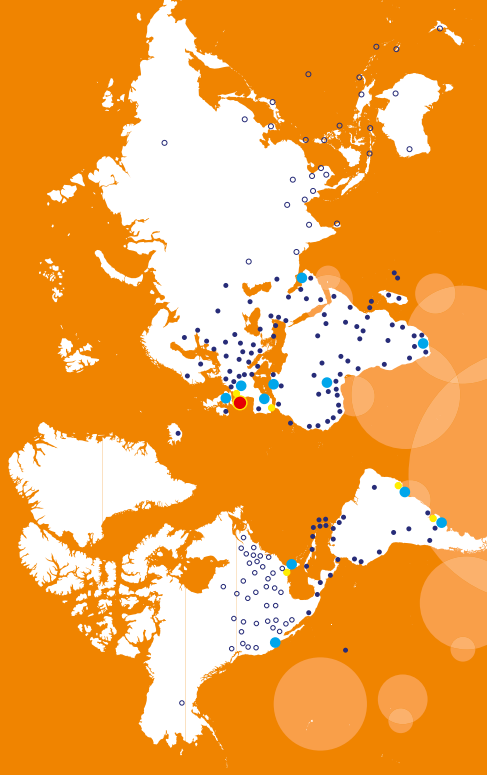
- 7 sales offices and
3 regional HQs in France.

The reactivity of the company is based on its 5 storage platforms which, in co-operation with the subsidiaries, constitute an efficient means of operating.

The links forged with the Kolher group have strengthened SDMO's standing amongst its customers through a strategy of synergistic installations:

In order that SDMO can continue to grow and expand into new markets, it relies on:

- a distribution network present
in over 150 countries;
- 7 overseas subsidiaries;
- 4 offices,



- SDMO head office
- SDMO offices
- Agents/Distributors
- SDMO stock
- Service centres

Market logic for greater reactivity

The production plants in Brest are organised according to product lines relating to the product range offered:

- a production site for Portable Power generating sets and for Power Products with lower power,
 - a production site for Power Products, Rental Power and Residential Power ranges,
 - a production site used for the production of special Power Solutions applications.
- This overall synergy between the industrial teams and sales and marketing departments reinforces the position of SDMO: prescription, reactivity, presence on the major markets.

	Basic and options	EXEL 1 MTU 2000 series VOE and VOC		EXEL 2 MTU 4000 series VOE		VOC
engine	4 stroke water-cooled diesel engine	•		•		
	Electronic control device	•		•		
	Standard air filter	•		•		
	Air filter with interchangeable cartridge	EN.02		EN.02		EN.02
alternator	220/240 V Diesel generator	EN.20		EN.20		EN.20
	Electric dual starter motor	SO.005		SO.005		SO.005
	IP 23 single bearing alternator, T ₁ class H ₁ insulation class H ₁	SO.007		SO.007		SO.007
	Anti condensation resistor	AL.01		AL.01		AL.01
alternator	Reinforced insulation	AL.05 ¹⁾		AL.05		AL.05
	Reinforced insulation and finish	AL.06		AL.06		AL.06
	Stator PTC sensor	AL.07		AL.07		AL.07
	Bearing PTC sensor	AL.08		AL.08		AL.08
	Stator PTC 100 sensor	AL.09		AL.09		AL.09
	Bearing PTC 100 sensor	AL.10		AL.10		AL.10
	Synchronising CT coupling + 3 function resistor	O ²⁾		O ²⁾		O ²⁾
	Oversized alternator	AO.001B		AO.001B		AO.001B
	CE compliance of the control unit	•		•		•
	Mechanically welded base frame with anti-vibration dampers	•		•		•
generator set	Supplied in colour (RAL 9005/95107) (black/grey delivered in 5mm x 5mm film)	•		•		•
	Supplied with oil and coolant -30°C	•		•		•
level	Automatic oil top up with tank	EN.18		EN.18		EN.18
	Oil centrifuge system	X		EN.19		EN.19
cooling	On generator pump	•		•		•
	Refrigerator for winding T ₁ of 4/5°C (max with mechanical fan)	•		X		X
	Refrigerator for winding T ₂ of 5/0°C (max with mechanical fan)	•		X		X
	Air cooler for winding temperature of 38°C (max with mechanical fan)	X		X		X
cooling	Air cooler for winding temperature of 47/50°C (max with mechanical fan)	X		X		X
	Charger for air cooler	X		X		X
exhaust	Surplus without coolant	GS.003		GS.003		GS.003
	Protective grille for fan and retaining parts	FD.11		•		•
	Protective grille for radiator, warning harness	EN.14		•		•
	Stainless steel compensators	•		•		•
	9 dBA silencer supplied separately	EN.07		EN.07		EN.07
	29 dBA silencer supplied separately	EN.08		EN.08		EN.08
	40 dBA silencer supplied separately	EN.09		EN.09		EN.09
	Protective grille for hot parts	CEL.02		X		X
	24 V charging alternator and starter motor	•		•		•
	No charging alternator	X		EN.17		EN.17
starting	Batteries with cable and battery support bracket	SO.001		SO.001		SO.001
	No battery and battery support bracket	•		•		•
diesel	Battery isolating switch	EN.16		EN.16		EN.16
	Generators set without fuel tank	•		•		•
	500l base frame fuel tank	FD.03		X		X
	Separate fuel tank on 500l container	FD.06		FD.06		FD.06
	Separate fuel tank on 1000l container	FD.07		FD.07		FD.07
	Return to engine level valve	FD.04		FD.04		FD.04
	1m ³ /h pump air filter 1	FD.08		FD.08		FD.08
	1m ³ /h pump air filter 2	FD.09		FD.09		FD.09
	4m ³ /h pump air filter 2	FD.10		FD.10		FD.10
	Diesel separator prefilter	•		•		•
accessories	Fuel coolant system	X		EO.006		EO.006
	User manual and commissioning guide (paper version) - French, English or Spanish	AD.21		AD.21		AD.21
	User manual and commissioning guide (paper version) - French, English or Spanish	AD.22		AD.22		AD.22
	User manual and commissioning guide (CD version) - French, English or Spanish	AD.31		AD.31		AD.31
	Engine parts catalogue (paper version) - English	AD.32		AD.32		AD.32
	Engine parts catalogue (CD version) - English	AD.41		AD.41		AD.41
	Engine repair and workshop manual (paper version) - English	AD.42		AD.42		AD.42
	Engine repair and workshop manual (CD version) - English	•		•		•
	GENSERVICE replacement parts	O		O		O

1 EN02 Air filter with interchangeable cartridge

- X As standard
- O Not available
- Several possible options
- EN.21 Option code
- FD.01 Free option

2 EN16 Battery isolating switch

3 AD21 and AD 22 User manual and commissioning guide

4 No control unit available for this option
Synchronising CT coupling not required for Mics KERYS
Only from X 700 to X 1000
Only from X 1100 to X 1250
Outdoor ambient temperature, reduce by approximately 7°C
Additional copy
Standard for X 1100 and X 1250
Supplied only with oil

The CONTEENERGY concept

INTRODUCTION

CONTEENERGY

The CONTEENERGY concept offers a range of soundproof containers featuring a multitude of options

Thanks to their standard dimensions, CONTEENERGY containers are easy to transport and, once on site, very simple to install: we would recommend that you install them outside the building on a concrete floor plate fitted with a tunnel for the cables and pipes.

Highly economical thanks to its cooling system, integrated sound traps and silencers, the CONTEENERGY concept is completely self-contained, with a fuel capacity which enables it to operate immediately, without connection to an additional tank.

SDMO understands the many factors that have an influence on your equipment's operation. That is why our containers are designed to withstand harsh climate conditions. Whether your equipment needs to operate in extreme cold or tropical environments, let us know your requirements - we are sure to have the solution you're looking for.

Trailers compliant with international standards are also available, allowing you to transform your generating set into a mobile unit (please contact us)



SDMO PRODUCT PLUS

With the CONTEENERGY concept, one simple connection is all it takes to get your power plant up and running.

CONTENERGY ISO

The dimensions of CONTENERGY ISO containers comply with CSC certification. They have been specially designed to withstand significant loads and pressures during transport without incurring damage, and can be shipped without any special constraints. They are available in two sizes: 20 and 40 feet "High Cube".

CONTENERGY CIR

CIR type containers are specially designed with mobile and rental applications in mind. This highly compact model has a very low sound level and features an optional high volume tank, giving it up to 10 hours of autonomy.

This model is available as a 20 feet "High Cube"

SDMO PRODUCT PLUS

To protect the environment, our containers may be fitted with an optional retention container to hold all engine fluids.

Our containers comply with all current standards and regulations governing these products, including:

- ISO 668
- NF90-005
- NF ISO 1496-1 (ISO 8323)



ISO20 (Silent)
1275kVA - 1540kVA

ISO40 (Silent)
1700kVA - 2100kVA

CIR20 SSI (Super Silent)
1275kVA - 1540kVA

Generating set type	Engine	SILENT			SUPER SILENT		
		85 - 88 dB(A)@1 m	85 - 88 dB(A)@1 m	85 - 88 dB(A)@1 m	78 - 80 dB(A)@7 m	78 - 80 dB(A)@7 m	81 - 83 dB(A)@7 m
X700UC2 to X880C	12V2000	ISO 20 SI	X	CIR 20 SSI	X	ISO 20 SSI	X
X900UC2 to X1100C	16V2000	ISO 20 SI	X	CIR 20 SSI	X	ISO 20 SSI	X
X1200UC2 to X1250C	18V2000	ISO 20 SI	X	CIR 20 SSI	X	ISO 20 SSI	X
X1540C to X2000C	12V4000	ISO 40 SI	EUR 40 SI	EUR 40 SI	X	EUR 40 SSI	EUR 40 SSI
X2000UC2 to X2500C	16V4000	ISO 40 SI	EUR 40 SI	EUR 40 SI	X	EUR 40 SSI	EUR 40 SSI

Standard containers

basic and options

BASIC AND OPTIONS

EQUIPMENT

Basic and options	SILENT			SUPER SILENT		
	ISO 20 SI	ISO 40 SI	ISO 40 SSI	CIR 20 SSI	CIR 40 SSI	EUR 40 SSI
Base member	•	•	•	•	•	•
Starter motor, 24 V charging alternator	•	•	•	•	•	•
Batteries filled with electrolyte	SO 001	SO 001	SO 001	SO 001	SO 001	SO 001
Standard air filter	•	•	•	•	•	•
Oil drainage pump	•	•	•	•	•	•
Type of soundproofing	SI	SI	SI	SSI	SSI	SSI
High performance integrated 30 dB(A) silencer	•	•	•	•	•	•
Floor	Bulb plate	Bulb plate	Bulb plate	Bulb plate	Bulb plate	Bulb plate
Number of doors	2	2	2	3	3	3
Galvanised air outlet rain grille	CT 005	CT 005	CT 005	•	•	•
Safety lighting and shut-off valve	CT 007	CT 007	CT 007	CT 007	CT 007	CT 007
Exhaust outlet on bracket	CT 011	CT 011	CT 011	CT 011	CT 011	CT 011
RAL 9010 white painted finish for container	•	•	•	•	•	•
Special colour from list	CT 016	CT 016	CT 016	CT 016	CT 016	CT 016
Power cable outlet on lower section	CT 015	CT 015	CT 015	CT 015	CT 015	X
Retention container under container assembly	CT 014	CT 014	CT 014	CT 014	CT 014	X
500 l chassis tank	•	X	X	•	•	X
Tank on container (500 l)	X	X	X	X	X	X
Tank on container (2000 l)	•	•	•	•	•	•
External terminal block	CT 018	CT 018	CT 018	CT 018	CT 018	CT 018
1m ³ /h pump auto kit 1	CT 008	CT 008	CT 008	CT 008	CT 008	CT 008
1m ³ /h pump auto kit 2	X	CT 009	CT 009	X	CT 009	CT 009
4m ³ /h pump auto kit 2	X	CT 010	CT 010	X	CT 010	CT 010
CE compliance of the control unit	•	•	•	•	•	•
TELVS central console	CM 40	CM 40	CM 40	CM 40	CM 40	CM 40
KERS control unit	CA 600	CA 600	CA 600	CA 600	CA 600	CA 600
Length (mm)	6058	12192	12192	6058	12192	12192
Width (mm)	2438	2438	2438	2438	2438	2438
Height (mm)	2896	2896	2896	2896	2896	2591

• As standard X Not available

EN 01 Option code

CT 011 Free option

ENCLOSURE

If you wish to soundproof a generating set fitted with an MTU-DDC 12V2000 or 16V2000 engine, while keeping the size to a minimum, you should choose the M427 enclosure. This will enable you to mount the assembly inside a 40 feet "High Cube" container to facilitate transportation.

ENCLOSURE	Specifications 50 Hz						60 Hz specifications			General specifications	
	Generating set type	dB(A)@1m	dB(A)@7m	Weight	Generating set type	dB(A)@1m	dB(A)@7m	Weight	Dimension lkw/h	Fuel	
427	X715/X715C	90	80	7836	X700UC2	94	85	7836	6.4x2.17x2.72	930	
427	X880/X880C	91	81	8036	X800UC2	94	85	8236	6.4x2.17x2.72	930	
427	X1000/X1000C	90	80	8604	X900UC2	95	86	8604	6.4x2.17x2.72	930	
427	X1100/X1100C	91	81	8709	X1000UC2	95	86	8909	6.4x2.17x2.72	930	



M427

electrical control units

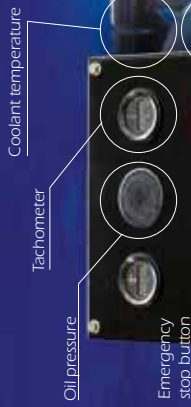
Three control units are available in our 650 to 3000 kVA range: the M80, the TELYS (previous pages) and the KERYs.

Your control unit can be chosen according to your equipment type and perfectly adapted to suit your needs using the available options. This modularity is made even easier by the fact that each optional peripheral device (air cooler, daily service tank, oil top-up, etc.) has its own protection.

For power plants, separate control boxes may be used in place of the control units; please do not hesitate to contact us.

INTRODUCTION

The M80 control unit has a dual functionality. It can be used as a basic terminal block for connecting a control box and as an instrument panel with a direct read facility, with displays giving a global view of your generating set's basic parameters.



M80

INTRODUCTION

Telys, SDMO's flagship product, integrates new options and offers improved ergonomics and a more user-friendly design. It is even more straightforward, with the emphasis on communication (USB connections, PC connections, control software and remote operation):

- Its design, inspired by the NEXYS, has reduced the number of buttons to offer you simplicity when operating your generating set. It also offers new functions:
- Integrated maintenance monitoring programme (on-screen display of required maintenance operations)
- On-board service tool to guide the user when a warning or fault is detected
- Viewing and remote control functions with option to send^(a) an Email, text message or fax in the event of a warning or a fault

TELYS

- Card tropicalisation possible to compensate for extremely humid conditions ^(b)
- Compliance with numerous legal and regulatory requirements (EC)
- Screen with contrast which adjusts to all types of light

(b) As an option



Display screen composed of 4 zones:

- ZONE 1:** Operation mode (generating set running/automatic/manual)
- ZONE 2:** Display of functions via pictograms
- ZONE 3:** Display of mechanical and electrical values and the associated measurements
- ZONE 4:** Operating messages and parameter settings menu

The Telys can now be fitted with viewing and remote control options, allowing the generating set to be actively monitored and managed for greater safety.

SDMO PRODUCT PLUS

TELYS IN FIGURES

- Operation from -20°C to +60°C
- Humidity: 95% to 45%, 70% to 50°C, 50% to 60°C
- 5 language options numerous optional languages
- Option to connect up to 5 additional I/O modules (4 inputs/6 outputs) (p)

SPECIFICATIONS

	BASIC TERMINAL BLOCK	M 80
Measurements	Tachometer (54 mm) Oil pressure gauge Coolant temperature indicator Oil temperature indicator	• • • •
Engine parameters		
Controls	Emergency stop CE compliant	• • O
Miscellaneous	Customer connection terminal block	• • •

• As standard X Not available O Options

INTRODUCTION

The KERYS command and control unit has been designed to fulfil the specific requirements of professionals in terms of managing and monitoring generating sets. It therefore offers a wide range of functions.

This control unit is fitted as standard to all generating sets designed to be used for coupling and is offered as an option across the rest of our range.

The KERYS can be built into the central console, fitted directly on the generating set, or in a separate cabinet, to fulfil all the requirements for low and high output power plants.

AUTOMATIC CONTROLLER DEDICATED TO

GENERATING SET APPLICATIONS

- Choice of a range of basic standard configurations.
- Additional logics can be added without any external tools.
- Library of functional modules.

FAULT FINDING HELP

- Validation of operation by simulation.
- Display of the status of variables.
- Breakdown guide with keyword search.

ASSISTANCE AND MAINTENANCE

- Emails sent automatically for maintenance requests, and for the appearance of alarms or faults.
- Log of operations carried out (maintenance or breakdown).

LOAD IMPACTS

Improvement of generating set performance during application of a significant load.

GRAPHS AND ARCHIVING OF ELECTRICAL AND

MECHANICAL PARAMETERS

Adjustable sampling and configurable triggering criteria.

COMPLIANCE WITH INTERNATIONAL STANDARDS

The KERYS has undergone very stringent tests in independent laboratories (climatic tests, electromagnetic compatibility tests, vibration tests, etc.) It is CE compliant.

FUNCTIONS

GENERATING SET AUTOMATIC CONTROL

- Single generating set or as part of power plant.
- Operation in HT (high tension) or LT (low tension)
- Normal/Emergency operation
- Operation in permanent or temporary grid coupling without cut-out:
 - Upon return to grid power,
 - During peak shaving,
 - During trials or tests.
- Inverted emergency operation
- Power production unit
- Cogeneration

MEASUREMENTS AND DISPLAYS

Mechanical:
 • Temperatures,
 • Pressures and levels, depending on engine configuration

Electrical:

- Voltages,
- Currents,
- Frequency and power,
- Power factor,
- Outputs,
- Mechanical and electrical metering.

SAFETY FEATURES

- Mechanical:
 • Speed,
 • Alarms,
 • Engine safety,
 • Special customer features.
- Electrical:
 • Currents,
 • Voltages,
 • Outputs,
 • Frequency,
 • Micro cut-outs

DISPLAY SCREENS

MMI (MAN-MACHINE INTERFACE)

INTRODUCTION

Man-machine interface module

The man-machine interface is available with a colour screen and a 7-inch touch panel. The MMI module is equipped with all the keys required to ensure the generating set can be controlled and the system configured, thanks to a screen navigator and an alphanumeric keypad.



1-Operation screen



3-Graph display



2-Synchronisation screen



4-Mechanical measurements screen

COMMUNICATION

- Built-in web server
- User-friendly man-machine interface
- 5 basic languages (French, English, Spanish, Portuguese, German), one of which is interchangeable (please consult us)
- Ethernet Port
- Dialogue with all engines equipped with a built-in ECU
- RS 485 port for Modbus RTU
- RS 232 port
- Option of PSTN communication (Public-Switched Telephone Network)

CONTROLS

Mechanical:
 • Speed,
 • Synchronisation,
 • Coupling,
 • Distribution or setting of grid or generating set active power,
 • Wattmetric programming

Electrical:

- Voltage,
 - Voltage equalising,
 • Distribution or setting of grid or generating set reactive power,
 • Adjustment of the grid or generating set power factor (cos Phi),
- Other physical values...

Each generating set may be supplied with a protection unit.

This unit is mounted on the chassis with connection cables to the alternator. It is located on the right-hand side of the generating set.

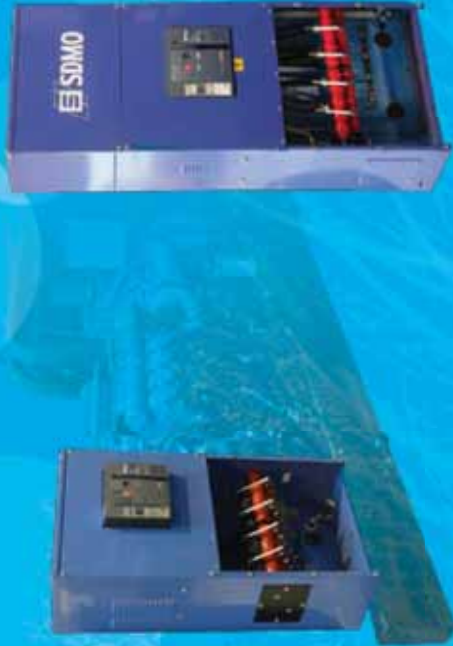
Rating	1250 A	1600 A	2000 A	2500 A	3600 A
With manual control on the front					
Fixed 3-pole power circuit breaker	0	0	0	0	0
Fixed 4-pole power circuit breaker	0	0	0	0	0
Motorised control option (1)					
With 3 or 4-pole open circuit breaker only	0	0	0	0	0
Voltage 208-440 V	•	•	•	•	•
Auxiliary unit option (2)	0	0	0	0	0
Power connection bus bars	•	•	•	•	•
Remote control terminal block	•	•	•	•	•
Protection index					
height (mm)	IP 207	IP 207	IP 207	IP 207	IP 207
width (mm)	1260	1260	1260	1260	1260
depth (mm)	683	683	683	683	683
DIMENSIONS (without air cooler unit)					
height (mm)	365	365	365	365	365
width (mm)	1664	1664	1664	1664	1664
depth (mm)	683	683	683	683	683
DIMENSIONS (with air cooler unit)					
height (mm)	365	365	365	365	365
width (mm)	1883	1883	1883	1883	1883
depth (mm)	683	683	683	683	683
DIMENSIONS (with connection unit on upper section)					
height (mm)	365	365	365	365	365
width (mm)	1883	1883	1883	1883	1883
depth (mm)	683	683	683	683	683

(1) The motorised control includes a diode solenoid valve, a shunt trip coil and an AC motor.

(2) The auxiliary unit option is mounted above the main unit. It is useful for the power connections of generating set auxiliaries, e.g.:

- Standard
- Option

- 1 connection unit without air cooler unit
- 2 connection unit with air cooler unit (with integrated air cooler unit on the lower section if necessary)



INTRODUCTION

SDMO provides a complete range of separate Normal/Emergency switches. There are a large number of benefits to our technology, both in terms of cost and of ease of installation. The design of the control units and boxes enables even cables with large cross sections to be easily connected. The front panel of the unit no longer opens on just one side, like a conventional control unit, but on three sides, allowing total access to all the connections for the power equipment and terminal blocks. All our control units are either three-pole or four-pole.

NORMAL/EMERGENCY SWITCH

800A	1000A	1600A	2000A (1)	2500A (1)	3150A (1)
•	•	•	•	•	•
Voltage: 208-440V					
By changeover switches					
•	•	•	•	•	•
Changeover					
1000	1000	1000	1800 (2)	1800 (2)	1800 (2)
Heights (mm)					
800	800	800	1000	1000	1000
Width (mm)					
500	500	500	800	800	800
Depth (mm)					

(1) Integrated into a floor-mounted control box (2) On a base plate h=200 mm, i.e. control box of height 1600 + 200

INTRODUCTION

Both innovative and original in design, the TSI is perfectly suited to applications where the transfer of a main source to a replacement source is crucial for the running of your installations.

Straightforward and easy to use, the special feature of this module is that it is automatically configured when voltage is provided from the grid side.

By simply pressing the AUTO key, the following parameters are configured: grid voltage, voltage min/max thresholds, type of use, frequency min/max thresholds.

Electronic switching of the power source means that the unit can be continuously self-supplied.

Confirm key

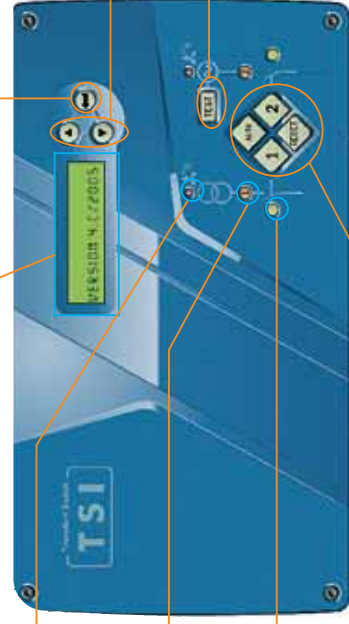
Screen with integrated backlighting, with 2 lines of 16 characters

Navigation and selection keys used for scrolling through the different electrical value display screens and for configuring all the module parameters to the customer specifications

Rotophase LED Indicates the phase rotation direction

Source Status LED Three-colour LED showing the status of the source

Position LED LED showing the closed position of the switch or changeover switch



Operating keys

Auto key: automatic module configuration for automatic operation during mains cut-off or voltage drop

Key 1: Forced source 1 operation
Key 2: Forced source 2 operation
Reset key: clears the fault display

Test used to simulate generating set starting, including the possibility of a changeover sequence

TSI

SPECIFICATIONS

2 lines on the screen, enabling simultaneous display of the voltage on the grid side and the generating set side. The same applies to the frequency. 6 LEDs provide instantaneous information on the position status of both of the two 2 sources, along with any alarms and faults which arise. The TSI also offers 3 configurable inputs and 2 outputs, as an option.

TSI MODULE

ADDITIONAL SPECIFICATIONS (please consult us)

Communication

In addition to a wire connection enabling dry contact remote starting with all SDMO command/control units (Telsys, Keys), the TSI module also has a CAN bus which enables it to communicate with the keys.

This connection allows all information relating to the grid and the starting order following a variation in voltage to be sent to the Keys.