APM403

COMMAND/CONTROL

KOHLER®

SDMO®

APM403

SIMPLE CONTROL OF GENERATING SETS AND POWER PLANTS + NUMEROUS CONNECTIVITY FUNCTIONS

- KOHLER-SDMO is renowned as one of the top designers and manufacturers of generating sets worldwide.
- The industrial manufacturer designs, manufactures and markets a range of generating sets and power plants from 1 kW to 200 MW which meet the needs of all power requirements and which can be adapted to all applications. Thanks to the expertise of its engineering department, and to tackle more specific customer demands, KOHLER-SDMO also develops its own command/control systems.
- The APM403 is the latest addition to the APM* family, and is available in two different configurations. The Solo (APM403S) version is fitted as standard on all generating sets intended for LV industrial applications. The Parallel (APM403P) version allows coupling of gensets or mains paralleling.
- This product meets the needs of professionals in terms of remote management, with the integration of numerous communication peripherals (3G, 4G, etc.)
  The APM403 is integrated in the console.

* Advanced Power Management

AVAILABILITY

The APM403 is available on KOHLER-SDMO generating sets, with power outputs from 66 kVA:

POWER PRODUCTS	APM403S/ APM403P
ADRIATIC	X
MONTANA	0*
ATLANTIC	•
OCEANIC	•
PACIFIC II	•
KD SERIES	•

RENTAL POWER	APM403P
RENTAL COMPACT	0**
RENTAL CONTENERGY	•

• Standard
0 Option
X Not available
* From 77 kVA (J77)
** Standard from 450 kVA (R450C3)

EXTENSIVE RANGE

PRESENTATION
APM403

DESCRIPTION OF THE APM403*

*APM403P

ADVANTAGES OF THE APM403

FLEXIBLE CONFIGURATION

- **Technical solution can be broken down for multi-configuration – SOLO or COUPLING applications**
- **Specific application variables can be customized.**

FOCUS

▸ APM403S

The APM403S is dedicated to SOLO operation only. No grid electrical measurements or associated circuit breaker control.

FLEXIBLE COMMUNICATION TOOLS

- **Remote configuration and supervision thanks to the WEBSUPERVISOR application (option)**
- **Standard communication tools:**
  - CAN USB Host, USB device, RS485
  - SNMP, MODBUS protocol
- **Optional:**
  - 4G, Ethernet, GPRS, Airgate
  - TCP/IP protocol

INTUITIVE NAVIGATION AND SIMPLIFIED GENSET OR POWER PLANT OPERATION

- **Multilingual support**
- **Simple, intuitive configuration specific to operating scenarios**

FUNCTIONALITY

START-UP CONFIGURATIONS

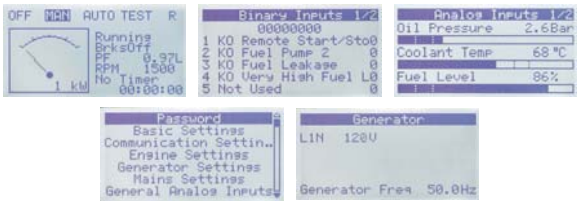
- **Solo**
- **Gensets in power plant (up to 8 gensets maximum)**
- **LV (Low Voltage)**
- **Automatic transfer management as part of a power plant or single generating set**
  - Automatic or manual transfer management in SOLO operation
  - Automatic transfer management as part of a power plant
- **Short or long time mains paralleling without cut-out:**
  - on return to mains power
  - during peak shaving
  - during tests
- **Adapted generating set safety features**
- **Adapted mains safety features**

CONTROL

- **Basic:**
  - Speed
  - Voltage
- **Automatic equipment start and stop depending on the load required by the installation.**

MEASUREMENTS AND DISPLAY

- **Mechanical**
  - Levels
  - Temperature
  - Pressure
  - Speed
- **Electrical**
  - Genset and mains voltage
  - Current
  - Frequency
  - Power factor
  - Power (kW and kVA)
  - Synchronization status
- **Energy meters**
- **Metering and electrical and mechanical statistics**
- **Delay countdown**
- **Equipment status**
- **Events display**
- **Messages for alarms and faults**
- **Display of engine fault codes for engines fitted with an ECU**



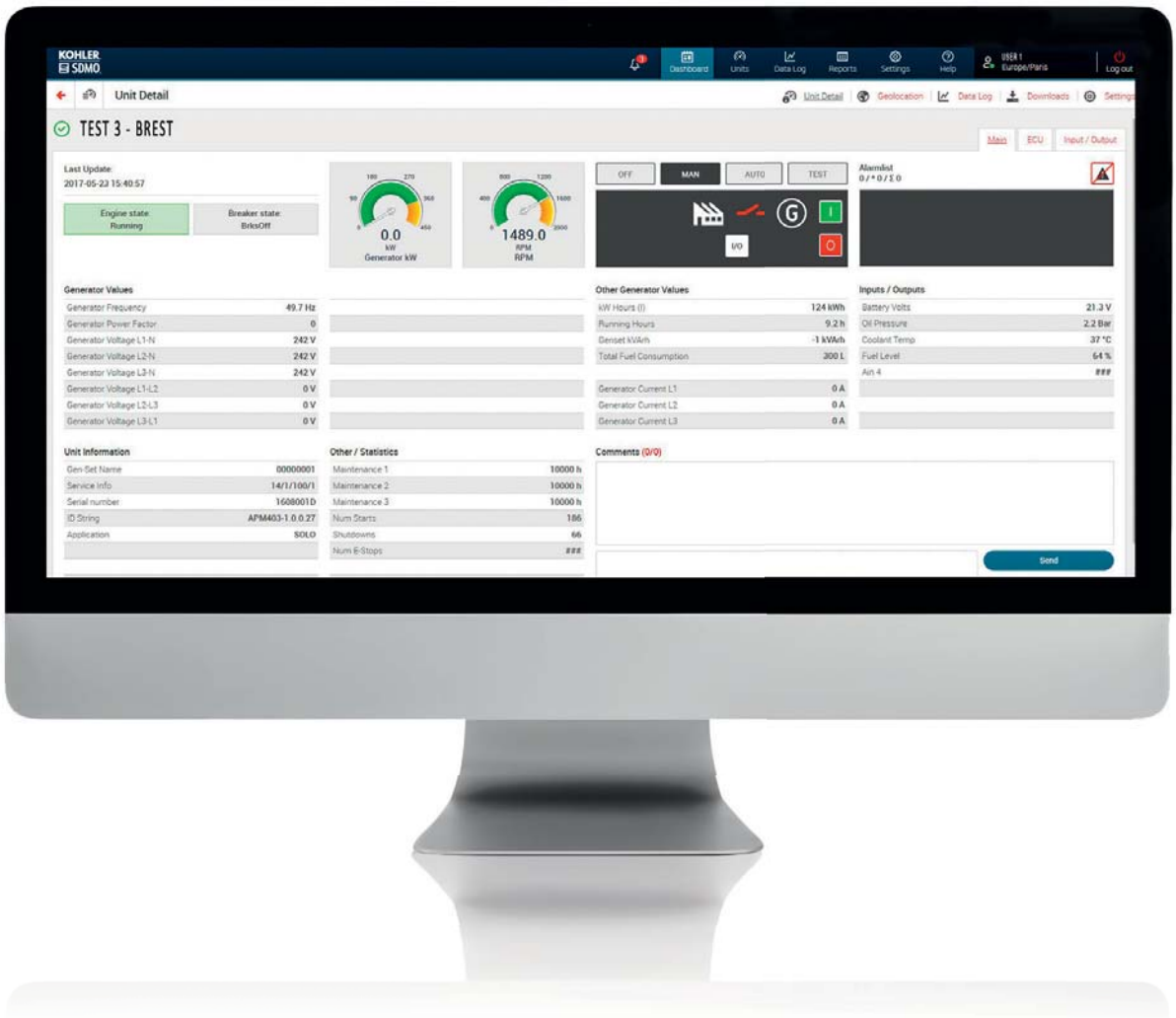
PRODUCT SPECIFICATIONS

OPERATION CONDITIONS	
Operating temperature	- 20°C / + 60°C
Storage temperature	- 20°C / + 70°C
EMC	
Certification	CE/UL
Electromagnetic compatibility directive	2014/30/UE
SAFETY	
Low voltage directive	2014/35/UE
ELECTRICAL MEASUREMENTS	
Frequency	50Hz / 60Hz
Nominal voltage range	86,6 à 480VAC phase / phase
Nominal current range	In = 5A
Battery range	8 à 36V
LANGUAGES	
English, French, Spanish, Italian, Dutch, German, Brazilian Portuguese, Turkish, Norwegian, Polish, Chinese, Russian	

REMOTE MANAGEMENT/SUPERVISION

WEB INTERFACE

Remote management and supervision web interface available for APM403 controllers, called WEBSUPERVISOR.



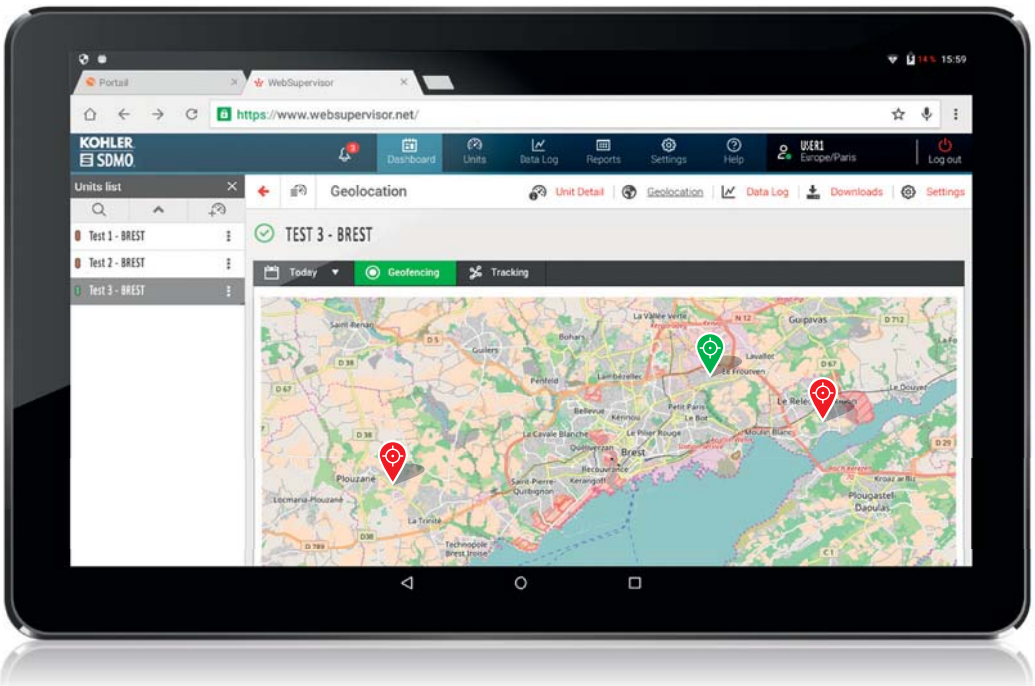
- Available as an option, it offers a range of options, from supervision of a single generating set to management of a complete group. The generating set operating parameters are sent to a server via GSM/3G/4G communication. This interface can be accessed from a PC, a tablet or a smartphone.
- The interface also allows users to monitor and evaluate the operation of their equipment at any time and from anywhere.
- Access to the application is secured by passwords, and allows user authorizations to be adjusted as required. Email alert messages can also be configured and sent in accordance with events predefined by the user.

	OPTION CODE
Remote management/supervision via ETHERNET report	CEA12
Remote management/supervision via GSM	CEA72
Remote management/supervision via 4G	CEA73

The application offers the following possibilities:

- **REMOTE MANAGEMENT**
  - Starting/stopping of the genset or installation
  - Opening/closing of the circuit breakers
  - Online parameter updating

- **SUPERVISION**
  - Periodic dashboards displaying genset availability and associated production
  - Implementation of optimized maintenance plans
  - Data archiving
  - Display of physical and mechanical values
  - Display of genset status
  - Display of genset events stack
  - Genset status notification
  - Geolocation of installations (GPS option)



CONFIGURATIONS

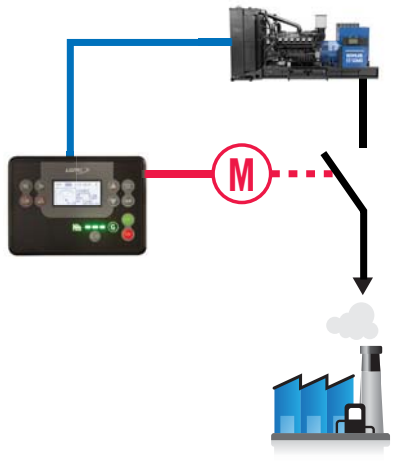
A612	A622	A631	A633	A651	A661
APM403S  APM403P 	APM403P 	APM403P 	APM403P 	APM403P 	APM403P 

APM403S

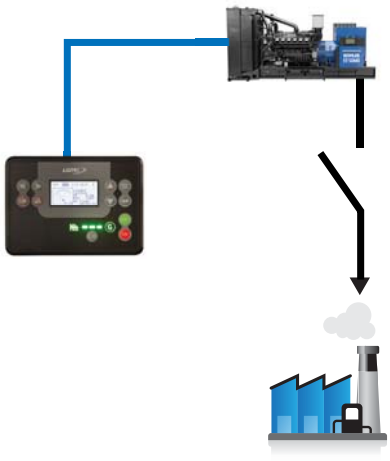
CONFIGURATION A612

Single generating set, without mains power, without coupling, without automatic transfer switch

WITHOUT MAINS PARALLELING	With self-regulating automatic transfer switch	A612
	With manual circuit breaker	A612



▶ With self-regulating automatic transfer switch



▶ With manual circuit breaker

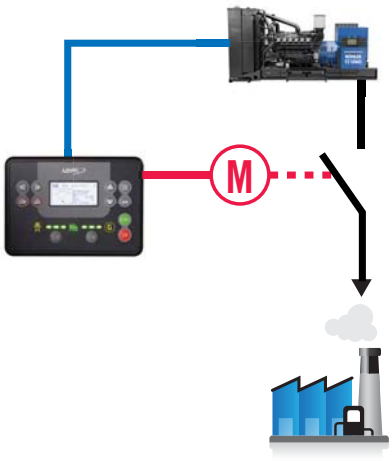
M Circuit breaker control — Current and voltage measurement

APM403P

CONFIGURATION A612

Single generating set, without mains power, without coupling, without automatic transfer switch, with motorized circuit breaker controlled by the APM403

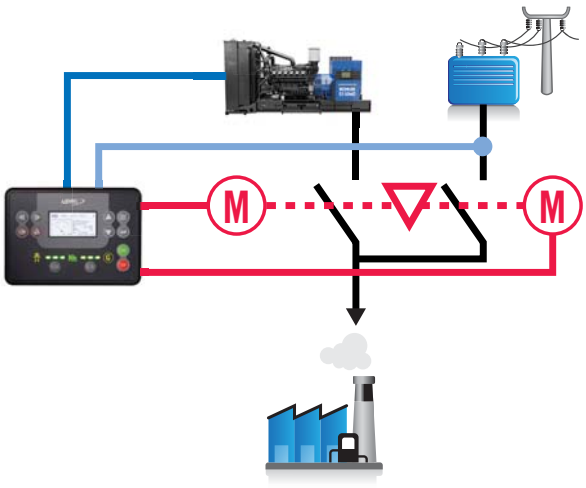
WITHOUT MAINS PARALLELING	**With motorized circuit breaker controlled by the APM403**	**A612**



M Circuit breaker control — Current and voltage measurement

CONFIGURATION A622

Single generating set, with mains power, without coupling, with automatic transfer switch controlled by the APM403

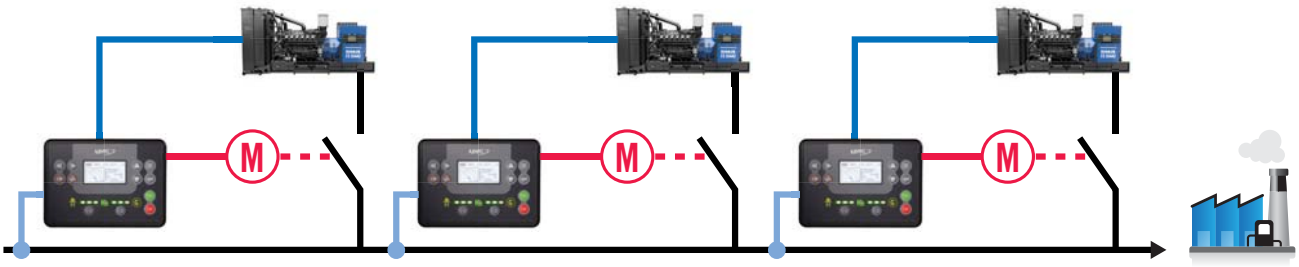


M Circuit breaker control — Current and voltage measurement

▽ Mechanical locking on the transfer switch — Voltage measurement

CONFIGURATION A631

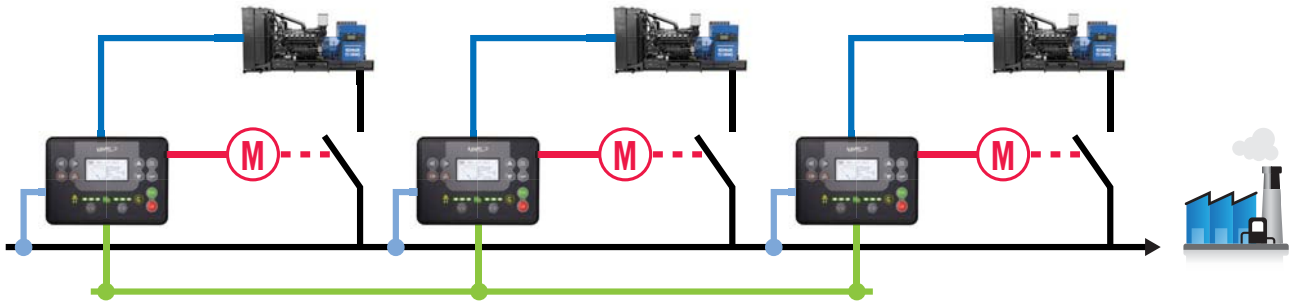
Generating sets coupled as a power plant, without mains power, without automatic transfer switch, **droop power distribution**



M Circuit breaker control — Current and voltage measurement — Voltage measurement

CONFIGURATION A633

Generating sets coupled as a power plant, without mains power, without automatic transfer switch, **regulation of active and reactive power by digital communication bus**



Circuit breaker control — Current and voltage measurement — Voltage measurement — Communication bus

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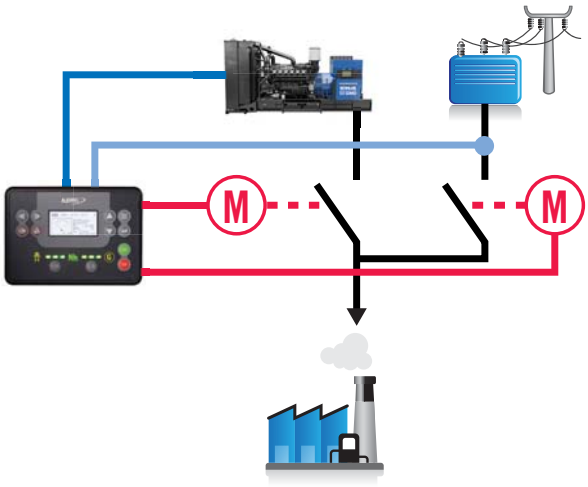
CONFIGURATION A651

Single generating set, with mains power, with automatic transfer switch, **short time paralleling on mains return**

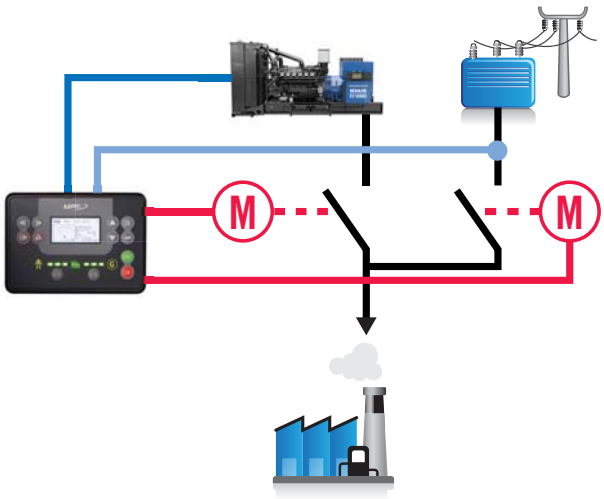


Circuit breaker control — Current and voltage measurement — Voltage measurement

Adapted genset safety features
Adapted mains safety features

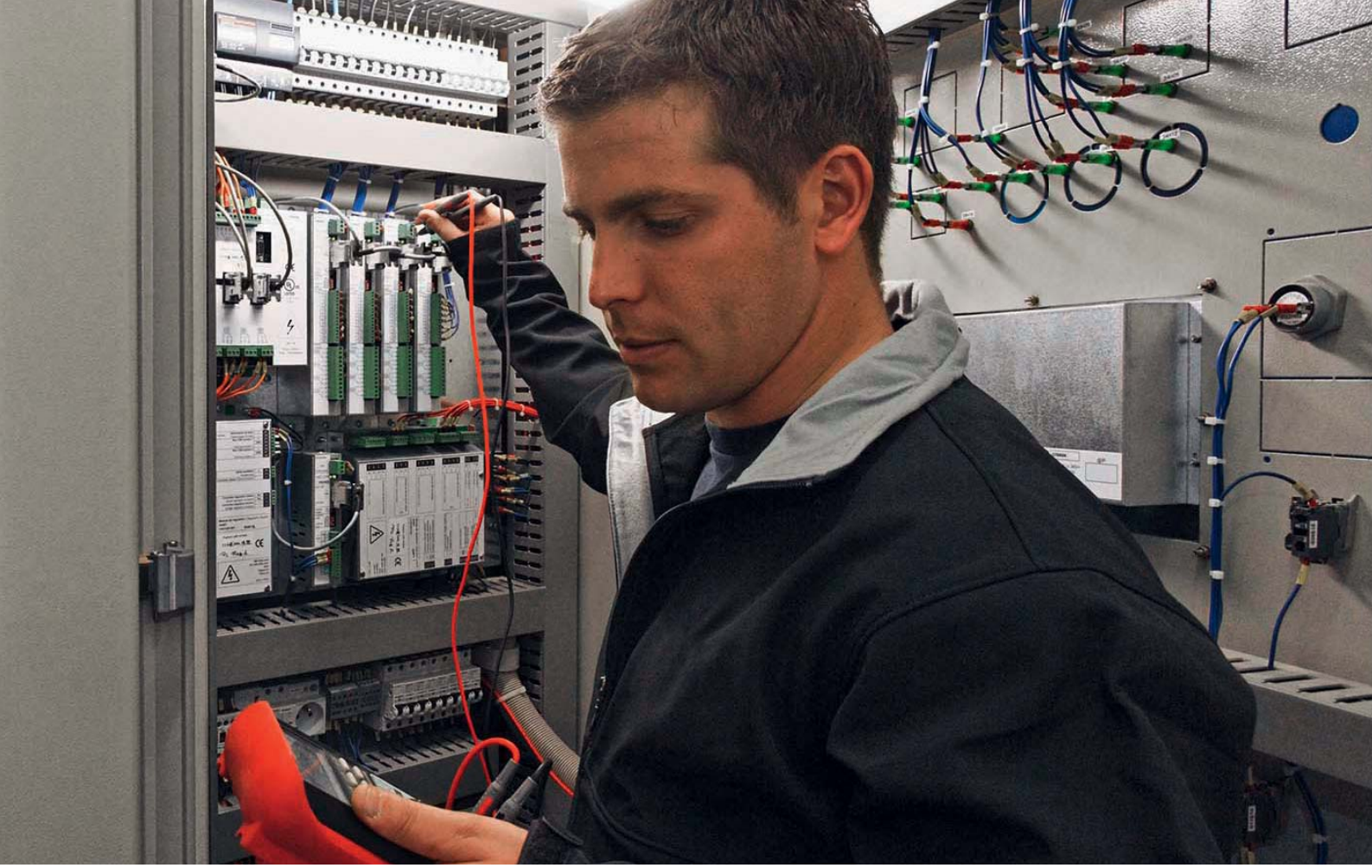
CONFIGURATION A661

Single generating set, with mains power, with automatic transfer switch, **long time paralleling**



Circuit breaker control — Current and voltage measurement — Voltage measurement

Adapted genset safety features
Adapted mains safety features



GENSET AND MAINS **SAFETY FEATURES**

PROTECTION	ANSI CODE
Monitoring of authorization for coupling two parts of the mains	ANSI 25
Protection for monitoring undervoltage	ANSI 27
Maximum active/reactive power	ANSI 32
Minimum active power	ANSI 37P
Protection against phase current imbalance	ANSI 46
Protection against reverse voltage and detection of reverse machine rotation	ANSI 47
Three-phase protection against short circuits between phases	ANSI 50
Three-phase protection against overloads and short circuits between phases	ANSI 51
Protection for monitoring overvoltage or undervoltage	ANSI 59
Protection against abnormally high frequency	ANSI 81H
Protection against abnormally low frequency	ANSI 81L
Protection against rapid uncoupling of two parts of the mains	ANSI 81R
Protection against uncoupling upon vector surge	ANSI 78

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ISO 9001

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