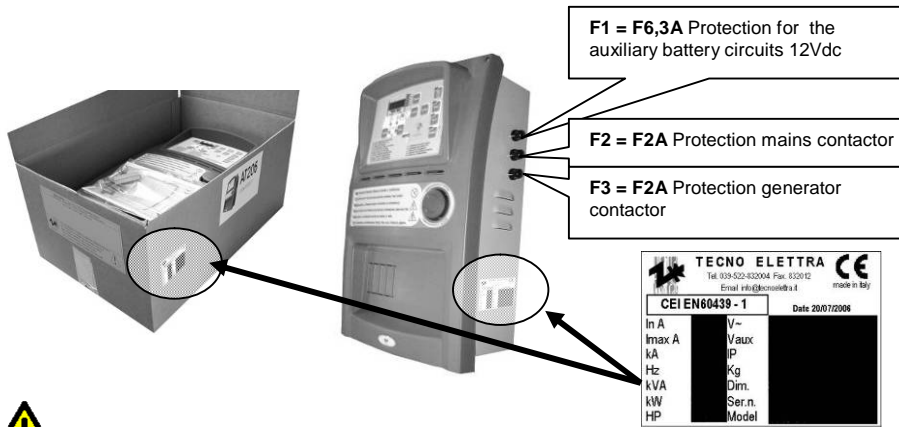




AT205 "Quick installation guide"

UK

General information

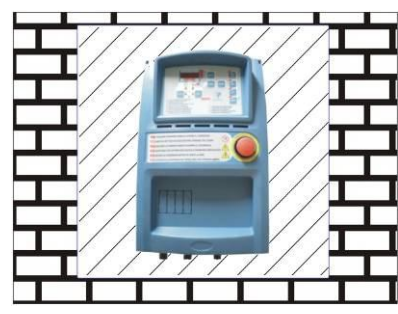
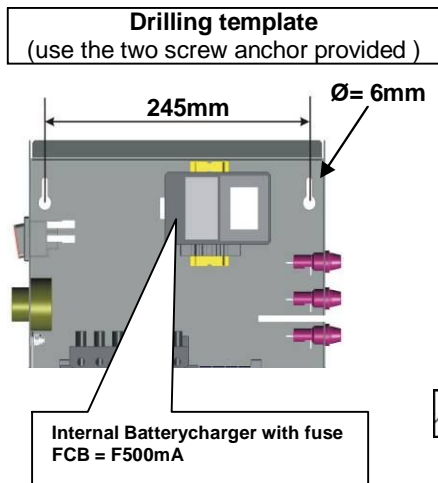


Description of the data shown on the label

In = nominal current
I_{max} = maximum rated current
KA = maximum breaking current against short circuit
Hz = frequency
KVA = apparent power (calculated at cos fi 0,8)
KW = active power
HP = horse power
V~ = maximum use voltage of the primaries
Vaux = maximum voltage of the auxiliary circuits
IP = degree of protection against external agents
Kg = approximate weight
Dim = dimensions Height x Width x Depth
Ser.n = serial number
Model = product code

WARNING! : check that the product delivered exactly corresponds to the ordered

Installation

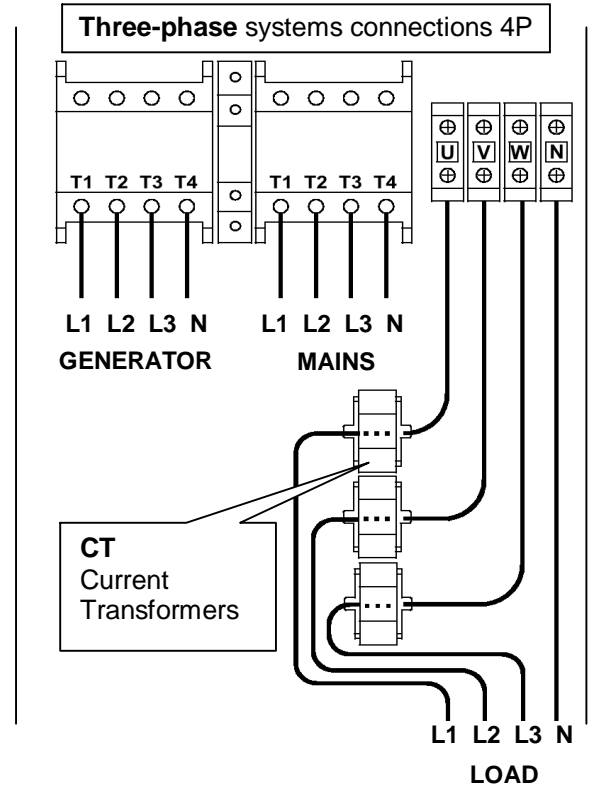
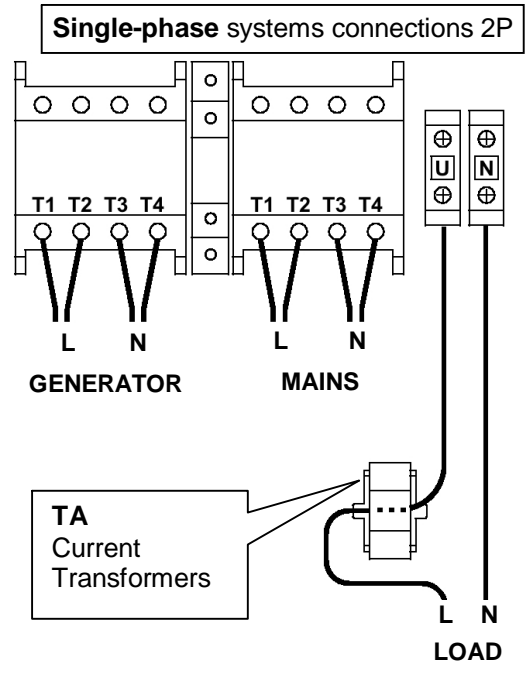


Free space of aeration reason = 10cm all around the switchboard

TECHNICAL FEATURES

Nominal voltage battery	12Vdc
Maximum rated current	250mA
Maximum rated power	3W
Operating range	9 ÷ 18VDC
Nominal voltage generator/mains	100 ÷ 480Vac L-N
Measuring range voltage appearing	50 ÷ 500Vac
Frequency range	45 ÷ 65Hz
Degree of protection front board	IP65
Degree of protection of switchboard	IP20
Operating temperature	-20 ÷ +50°C
Storage temperature	-30 ÷ +70°C
Maximum rated humidity	<90%

Power electrical connections



⚠ Cables sections

Single-phase system 2P (max 5m)

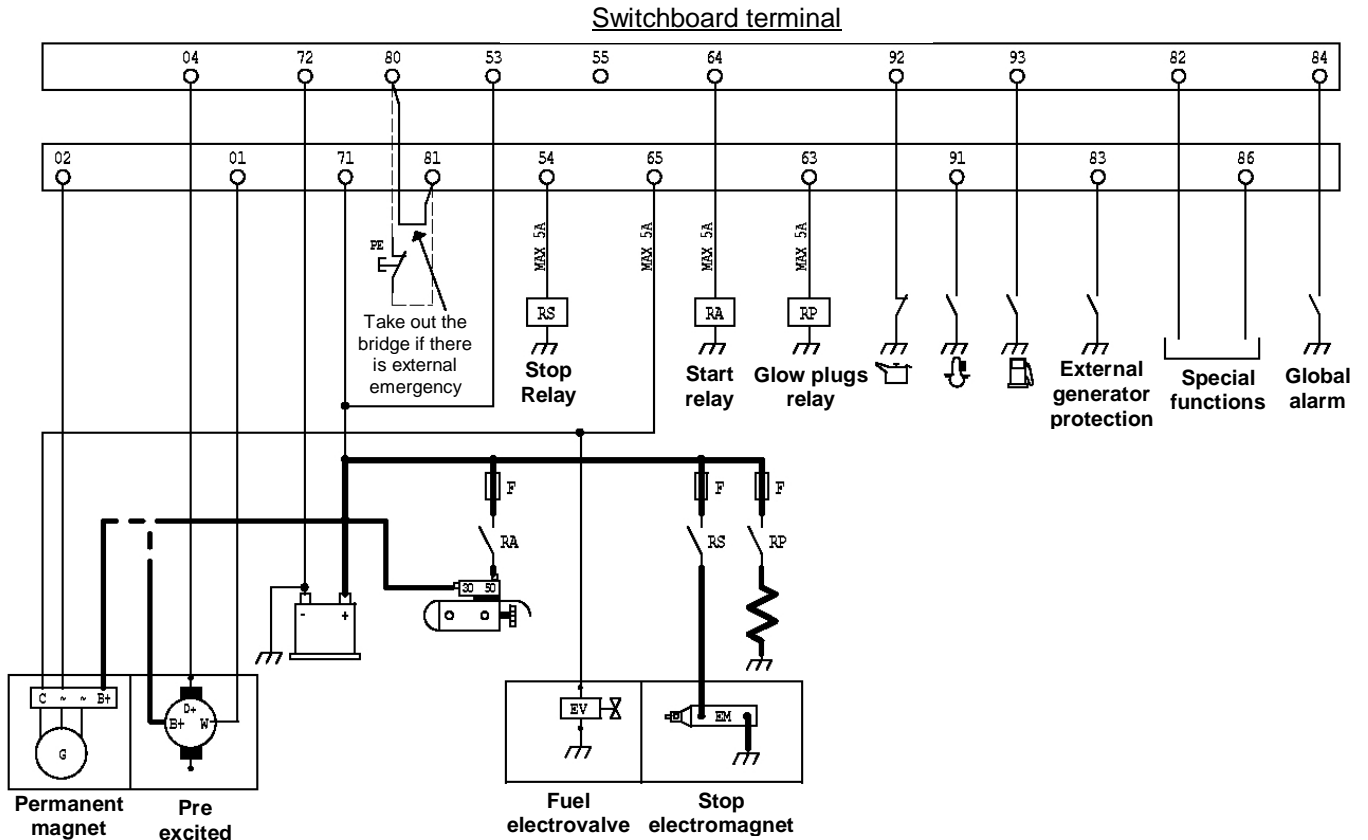
I max	sez. min	sez. max
40A	2x 4mm ²	2x 6mm ²
	1x 10mm ²	1x 10mm ²
72A	2x 6mm ²	2x 10mm ²
	1x 25mm ²	1x 35mm ²
90A	2x 10mm ²	2x 16mm ²
	1x 25mm ²	1x 35mm ²
96A	2x 10mm ²	2x 25mm ²
	1x 35mm ²	1x 35mm ²

Three-phase system 4P (max 5m)

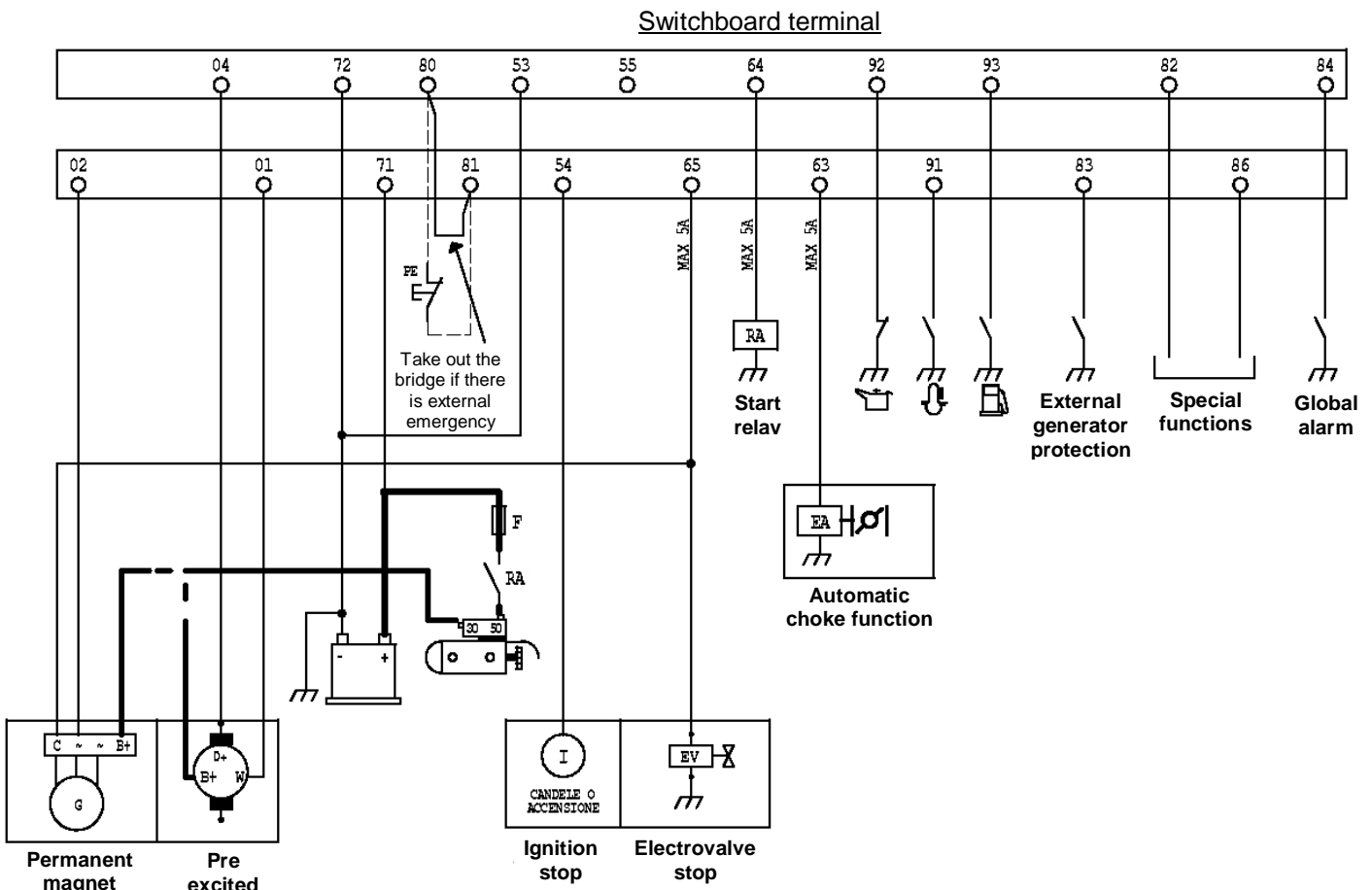
I max	sez. min	sez. max
25A	1x 4mm ²	1x 6mm ²
45A	1x 10mm ²	1x 16mm ²
56A	1x 16mm ²	1x 25mm ²
60A	1x 16mm ²	1x 25mm ²



Auxiliary electrical connections – Diesel engine



Auxiliary electrical connections – Gasoline engine

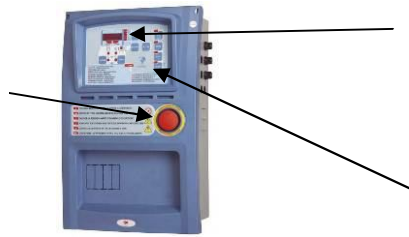


WARNING! if there a protection switch on the generator output voltage, please remember to turn it in ON before the gen-set start running



Power ON – first start up

Verify that the Emergency button is released: if not, rotate it in clockwise direction to unlock it. (only if available)



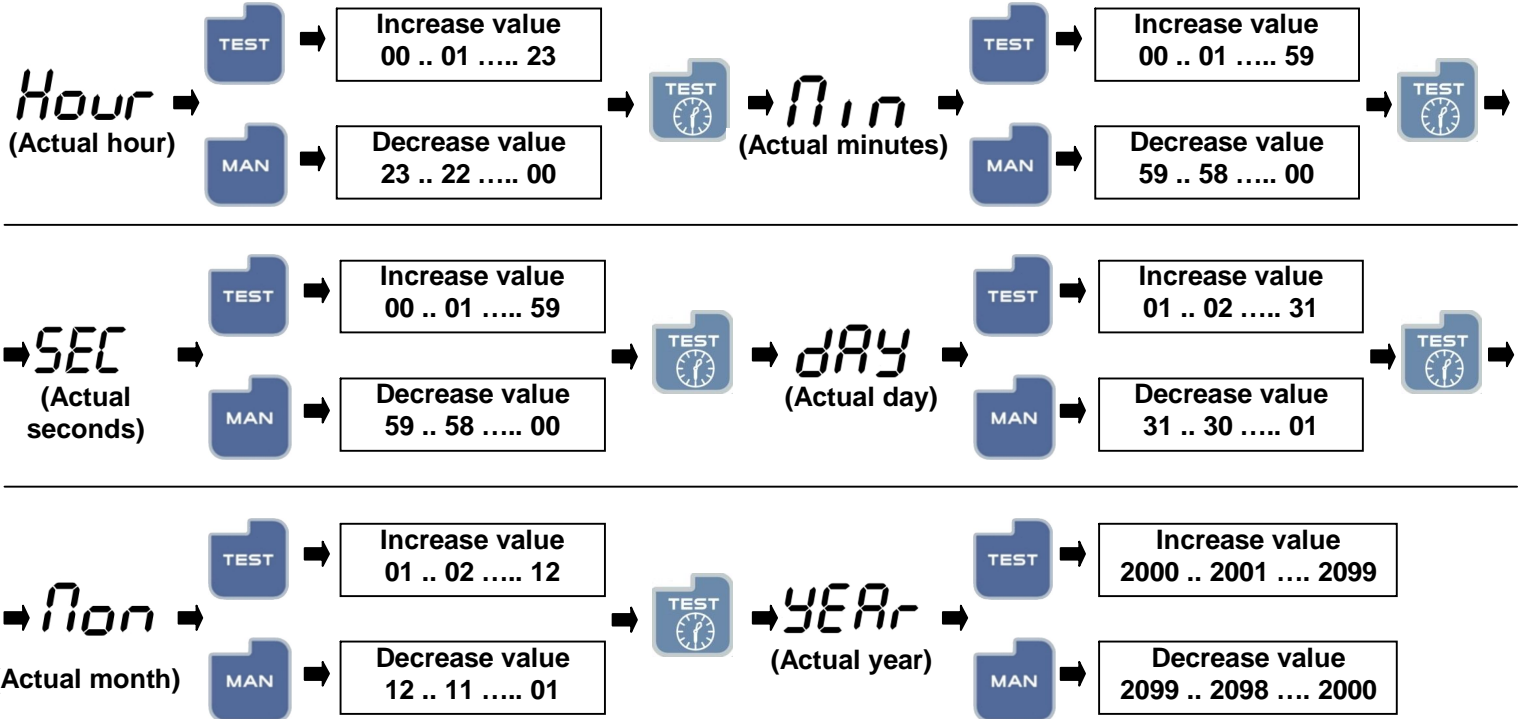
During the first start up, "Hour" is showed to permits clock's programming

Hour

Push RESET button to delete the time/data programming and change to operating mode. You can enter later in this programming mode by "user menu"



Start up – time/data programming



Push STOP to return in previous parameters (Mon, Day, Sec, Min, Hour)



OR

When finish, push RESET to exit from programming function and go to operating mode



WARNING! If the board turns off, the time/date are stored but the counter can't works. If the board still OFF for long time, the time/data re-programmation is suggested.

"AUTOMATIC TEST" programming (only if necessary)

The automatic test activation is suggested to avoid long inactivity terms of the generator.



Adjustable parameters description table for automatic test programming. (available only the parameters described on grey background)

MENU 09 – TEST AND MAINTENANCE	Default	Range
P0901 Automatic test on	OFF	OFF / ON
P0902 interval between TESTS (days)	7	1-30
P0903 To enable carrying out on Monday	ON	OFF / ON
P0904 To enable carrying out on Tuesday	ON	OFF / ON
P0905 To enable carrying out on Wednesday	ON	OFF / ON
P0906 To enable carrying out on Thursday	ON	OFF / ON
P0907 To enable carrying out on Friday	ON	OFF / ON
P0908 To enable carrying out on Saturday	ON	OFF / ON
P0909 To enable carrying out on Sunday	ON	OFF / ON
P0910 test beginning hour (h)	12	00-23
P0911 test beginning minutes (min)	00	00-59
P0912 automatic test duration (min)	OFF	OFF/1-600
P0913 Automatic test with load switching	OFF	OFF / G. with / du. Lo
P0914 automatic test with external stop	OFF	OFF/ON
P0915 Maintenance interval (h)	OFF	OFF/1-9999
P0916 TEST way with switching load	OFF	OFF / G. with / du. Lo



- 1) Push RESET + MEAS for 5 seconds at the same time. You can release buttons when first parameter "01.01" is shown on the display. To change menu/parameters, push MEAS up to reach parameter "**09.01**", that is the first parameter of menu number 9, called "TEST AND MAINTENANCE". The above table shows all the adjustable parameters in this menu. In this case, parameter "09.01" allows to activate or to disable the automatic test.
- 2) Push TEST or MAN to look at the setting. If you go on pushing TEST or MAN, you can modify to ON (activated test) or to OFF (disabled test). When the automatic test is on, the yellow led on TEST ⊕ button is switched on. When the automatic test is disabled, the yellow led on TEST ⊕ button is switched off. If you don't push any buttons, the board display comes back showing parameter "**09.01**" after 2 seconds.
- 3) Push TEST ⊕ button to move to the next parameter "**09.02**"; if you want to come back to previous parameters press STOP button. This parameter allows to set the waiting days between an automatic test and the next one. Push TEST or MAN to look at the setting; if you go on pushing TEST you can increase the value, if you go on pushing MAN you can decrease the value. If you don't push any buttons, the board display comes back showing parameter "**09.02**" after 2 seconds.
- 4) Push TEST ⊕ button to move to next parameter "**09.03**"; this parameter allows to set activated automatic test on Monday. Push TEST or MAN to look at the setting; if you go on pushing TEST or MAN, you can modify to ON (activated test) or to OFF (disabled test) the test on this day. If you don't push any buttons, the board display comes back showing parameter "**09.03**" after 2 seconds.
- 5) Follow the above procedure until parameter "**09.09**" regarding test on Sunday. Then, press TEST ⊕ button to move to next parameter "**09.10**", regarding automatic test starting hour. Push TEST or MAN to look at the setting; if you go on pushing TEST you can increase the value, if you go on pushing MAN you can decrease the value. If you don't push any buttons, the board display comes back showing parameter "**09.10**" after 2 seconds.
- 6) Push TEST ⊕ button to move to next parameter "**09.11**"; this parameter allows to set the starting minute of automatic test. Push TEST or MAN to look at the setting; if you go on pushing TEST you can increase the value, if you go on pushing MAN you can decrease the value. If you don't push any buttons, the board display comes back showing parameter "**09.11**" after 2 seconds.
- 7) Push TEST ⊕ button to change to next parameter "**09.12**"; this parameter allows to set the automatic test duration. Push TEST or MAN to look at the setting; if you go on pushing TEST you can increase the value, if you go on pushing MAN you can decrease the value. If you don't push any buttons, the board display comes back showing parameter "**09.12**".

The automatic test programming is now finished. If you want to review or change previous parameters, press STOP button and follow the above described procedure. Press RESET button to save the statements and exit the menu to come back to normal operating mode.

You can activate automatic test (as parameter "**09.01**") directly from normal operating mode: push TEST ⊕ + START (yellow TEST ⊕ led turns ON) at the same time.

You can disable automatic test (as parameter "**09.01**") directly from normal operating mode: TEST ⊕ + STOP (yellow TEST ⊕ led turns OFF) at the same time.



WARNING!

To prevent different operating modalities of the board, the modification of parameters 09.13 – 09.14 – 09.16 is not recommended without previously having consulted the service centre.

Sample of Automatic Test programming

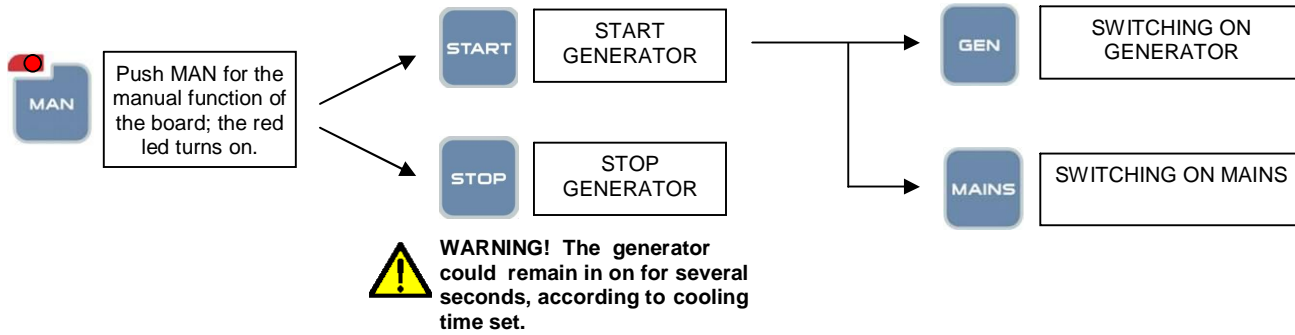
MENU 09 – TEST AND MAINTENANCE	Default	Range
P0901 Automatic test on	ON	OFF / ON
P0902 interval between TESTS (days)	3	1-30
P0903 To enable carrying out on Monday	ON	OFF / ON
P0904 To enable carrying out on Tuesday	OFF	OFF / ON
P0905 To enable carrying out on Wednesday	OFF	OFF / ON
P0906 To enable carrying out on Thursday	OFF	OFF / ON
P0907 To enable carrying out on Friday	ON	OFF / ON
P0908 To enable carrying out on Saturday	OFF	OFF / ON
P0909 To enable carrying out on Sunday	OFF	OFF / ON
P0910 test beginning hour (h)	10	00-23
P0911 test beginning minutes (min)	15	00-59
P0912 automatic test duration (min)	10	OFF/1-600

By using as example the above table, the automatic test functioning is the following:

- Today, Tuesday, the automatic test function is activated; 3 days later (next Friday), the automatic test runs.
- In parameter **09.07** Friday is activated; by this the test runs at 10:15 (**09.10** and **09.11**) for 15 minutes (**09.12**), and it finishes at 10:30.
- Next test occurs 3 days later (**09.02**), on Monday
- In parameter 09.03, also Monday is activated; by this the test runs at 10:15 (**09.10** and **09.11**) for 15 minutes (**09.12**), and it finishes at 10:30.
- Next test occurs 3 days later (**09.02**), on Thursday; this day is not activated (**09.06**). Automatically, the test splits on next day available; in this case the day is Friday (**09.07**) and the test runs from 10:15 to 10:30 like described before.
- From this day, the board restarts to count other 3 days to next test (**09.02**); next day is Monday.
- By this programming, the cycle continues in this way: the test runs on Monday and on Friday from 10:15 to 10:30



Mode of operation



- BOARD IN AUTOMATIC FUNCTION:** The electrical switching board automatically starts the generator in case of the mains irregularity, and stopping the generator when the mains became normal. The electrical panel also switching the contactor. If enabled, the automatic test goes on based on programming.
- BOARD IN RESET:** Push RESET, if the generator is on, it will be stopped immediately. In this position you can not start the generator and it is not possible to handle switching.
- BOARD IN TEST:** Pushing TEST, the generator starts immediately also if the mains voltage is correct; only if a mains failure occurs the switching change on generator side. Re-pushing AUT button, the generators stops, but only if the mains voltage is correct.

Display measures

Push PHASE to change the reference phases of the measures (shown by leds positioned above to display)

Push MEAS to scroll the measures (shown by leds positioned below and laterally to display)

In this sample, the displays shows a mains voltage of 400V between L1 and L2

The measure selected is shows by leds positioned above, below or laterally to display

V MAINS:	Mains voltage
V GEN:	Generator voltage
Hz:	Generator frequency
Rpm:	Numero giri del motore (only if enable)
A:	Current measurement
KVA:	Power measurement
Vbatt:	Battery voltage
Hours:	Generator work hours
Maint:	Left hours before engine maintenance (only if enable)

Display alarms

In case of alarm, the display shows an alarm identification code: the "alarm" led turns on. After 2 seconds the alarm description scrolls in the display

Verify the type of alarm using the alarm table in front of the panel

A01 - ALTA TEMPERATURA MOTORE	A16 - BASSA FREQUENZA GEN.	ALARM
A02 - BASSA PRESSIONE OLIO	A17 - ALTA FREQUENZA GEN.	
A03 - GUASTO SENSORE PRESSIONE	A18 - BASSA TENSIONE GENERATORE	
A04 - BASSO LIVELLO CARBURANTE	A19 - ALTA TENSIONE GENERATORE	
A05 - TENSIONE BATTERIA ALTA	A20 - ASIMMETRIA GENERATORE	
A06 - TENSIONE BATTERIA BASSA	A21 - CORTO CIRCUITO GENERATORE	
A07 - BATTERIA INEFFICIENTE	A22 - SOVRACCARICO GENERATORE	
A08 - ALTERNATORE CARICA BATTERIA	A23 - INTERVENTO PROTEZIONE ESTERNA GEN.	
A09 - AVVIA SEGNALE MOTORE IN MOTO	A24 - ERRATA SEQUENZA FASI GENERATORE	
A10 - BASSA VELOCITA' MOTORE	A25 - ERRATA SEQUENZA FASI RETE	
A11 - ALTA VELOCITA' MOTORE	A26 - ERRATA IMPOSTAZIONE FREQUENZA	
A12 - MANCATO AVVIAMENTO	A27 - ANOMALIA CONTATTATORE GEN.	
A13 - ARRESTO DI EMERGENZA	A28 - ANOMALIA CONTATTATORE RETE	
A14 - AVARIA MECCANICA	A29 - RICHIESTA MANUTENZIONE	
A15 - MANCATO ARRESTO	A30 - ERRORE SISTEMA	
		A31 - ORE NOLEGGIO ESAURITE
		A32 - BASSO LIVELLO LIQUIDO RADIATORE
		A33 - INTERRUITTORE PROTEZIONE GEN. CHIUSO
		A34 - INTERRUITTORE PROTEZIONE GEN. APERTO
		A35 - ALLARME DA CARICA BATTERIA.

WARNING! In case of alarm we suggest to contact the generator manufacturer.

Push RESET to clear the alarm signal and put the generator in safety.

GENERAL WARNING!

- Read this manual carefully since it is necessary as a guide to the way the product is designed to be used, to its technical features, to supply the instructions for installation, assembly and use. It is also useful for personnel training, to indicate the maintenance operations, for ordering spare parts and to give indications of the outstanding hazards.
 - The manual must always be available for consultation near the panel and kept in a proper manner (in protected, dry places, away from direct sunlight, etc.); it should be considered as part of the panel and must be "KEPT FOR FUTURE REFERENCE" as long as the equipment is assembled.
 - It should be borne in mind that some diagrams it contains have only the purpose of identifying the parts described and therefore might not correspond to your card.
 - After opening the package, check the entire unit in case of problems with this unit do not use it until you have consulted an the **Retailer or Manufacturer** otherwise all warranty rights will be voided.
 - This card has only to be used for the purpose for which it was specifically designed. Any other use shall be considered improper and, therefore, dangerous.
 - All operations concerning the installation of the control panel should be carried out by skilled personnel in conformity with present regulations.
 - During work it is recommended to keep to the current personal safety rules in force in the country the product is destined for (clothing, work tools, etc.).
 - When the unit is working do not use the card parts.
 - Never for any reason modify any part of the card (connections, holes, electrical or mechanical devices, etc.) unless duly authorized to do so in writing by **manufacturer**: the responsibility deriving from any such action shall fall on the person doing it since he then in fact becomes its manufacturer.
 - Before doing any cleaning or maintenance, disconnect the control panel from the power supply.
 - Never use the card exposed to sources of heat or under direct hot sunlight
- It is wise to remember that should any difficulty arise in its use, installation or whatever, our Technical Service is always at your disposal for any explanations or action.