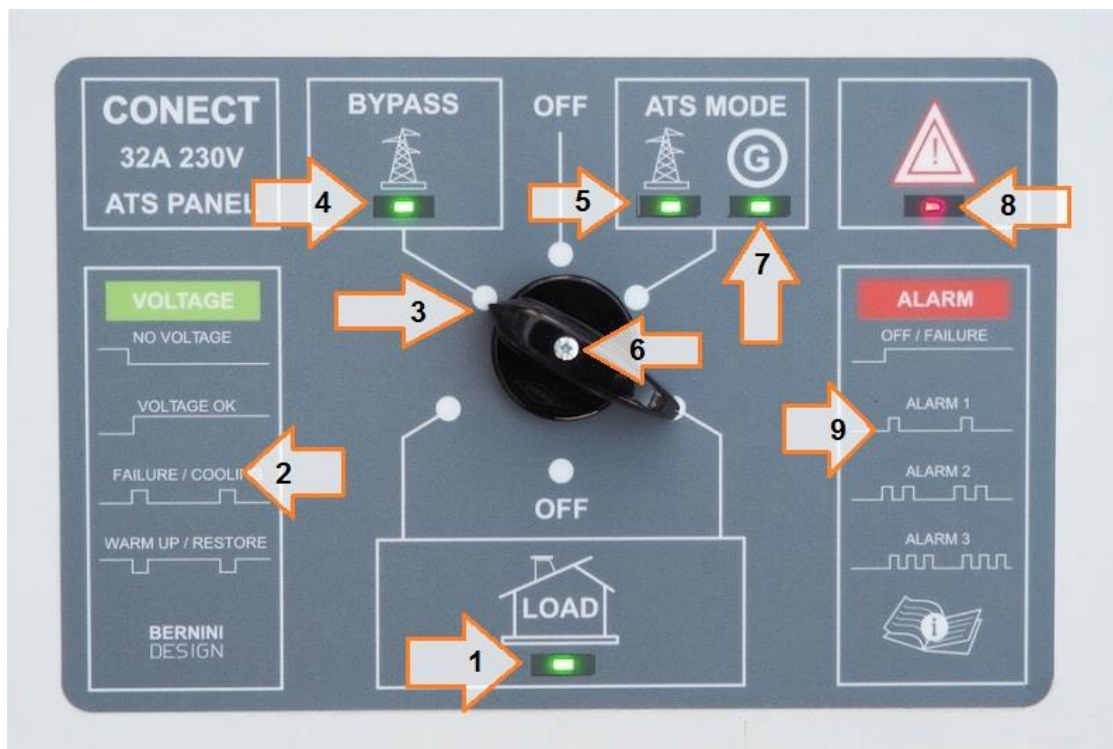


ATS CONECT PANEL

INSTALLATION & USER MANUAL VERSION 16-03-2022



1.0 DESCRIPTION

[1] The green light indicates the presence of voltage in your house. It may turn on when the switch is in the BYPASS position or ATS position. It may blink (see [2]) according to the voltage status.

[2] When a green light [1][4][5] or [7] is continuously on, it indicates a constant presence of voltage. A 10% ON / 90% OFF rate indicates an abnormal voltage. A 90% ON / 10% OFF blinking rate indicates that utility power (or generator) is about to be connected to your house. An Indicator is OFF when the voltage is lower than 120V.

[3] Function selector index. The knob has 3 fixed positions. Before removing the cover it is necessary to loosen the fixing screw [6].

[4] This green indicator informs you about the status of the utility power. It is continuously on when utility power is regular. It starts blinking when the voltage is not stable and, if the switch is in BYPASS mode, your appliances may suffer a damage. For this reason, always set the ATS PANEL in ATS mode.

[5] When the switch is in ATS mode, this green indicator works as described above ([2]). In case of utility power failure, the ATS panel disconnects your house and instructs the generator to start.

[6] Fixing knob screw. Before removing the cover it is necessary to loosen this fixing screw.

[7] This green indicator, informs you about the status of the generator. It is continuously on when the generator works within the specifications. It starts blinking (10% ON / 90% OFF) when the voltage is not stable. It starts blinking with a rate of 90% ON / 10% OFF during warm-up (engine runs offload)

[8] Red lamp indicating a status of alarm (see also section 4.0)

[9] This is the table that helps you decoding the alarms (see also section 4.0)

1.0 INSTALLATION GUIDE

The ATS CONECT panel connects a generator to your house. It allows a continuous current of 25 Ampere at a voltage of 230V (equivalent to 5kW). The panel must be placed between the electrical energy meter and the house (figure 1). A qualified electrician must connect the panel up to code to prevent back feeding.

You can connect a portable generator of at least 2000W or a stationary generator equipped with electric start up of 5kW. If the generator has a power greater than 5kW or the utility power can supply more than 5kW, we recommend that you insert a 25A circuit breaker. Connect auxiliary circuits to JH and JI as indicated in section 5.0.

The installation must be vertical to the wall, minimum height from the ground 150cm, choose a clean and dry environment. Do not install in humid places with unhealthy odors. Do not install closer to gas-fired boiler or furnace. During installation, it is possible to change the operating settings (see section 3.0 and figure 2).

2.0 ELECTRICAL PROTECTIONS

The ATS CONECT panel disconnects the house if the frequency drops below 45Hz and the voltage drops below 190V. The alarms are described in section 4.0. The panel has an internal 32A fuse that protects the ATS power circuits. If the fuse blows, contact our service center on 0040 721 241 361. You can continue to use the ATS panel by putting the knob in the BYPASS position. To have a clear indication of the alarms, we recommend a generator with a battery (stationary generator).

3.0 HOW IT WORKS

The ATS PANEL features a 3-positions switch; BYPASS - OFF - ATS (see page 1). In the BYPASS position, the switch directly connects your house to utility power. The ATS PANEL is therefore totally excluded. If utility power is within limits the green BYPASS light turns on. The red light will also turn on to indicate the “non-automatic” condition of the panel.

In the OFF position, the switch isolates your house from utility power and generator. This mode can be used to reset alarms.

SAFETY WARNING

BEFORE WORKING ON THE ELECTRICAL SYSTEM OF YOUR HOUSE REMOVE UTILITY POWER FROM THE SOURCE AND DISCONNECT THE GENERATOR POWER PLUG . THE POSITION OFF OF THE KNOB IS PREFERABLE ALL THE TIME YOU ARE GOING TO INTENTIONALLY REMOVE UTILITY POWER AND GENERATOR BUT DOES NOT GUARANTEE 100% SAFETY.

REFER TO THE ABOVE SAFETY WARNING ALL THE TIME YOU OPEN THE ATS PANEL COVER

In the ATS position, when a short power cut occurs, the ATS PANEL totally cuts power to the house. The green ATS light indicates the status of the utility power. The LOAD light [1] indicates the presence of voltage in the house. After a short power cuts, the current will only be restored after the programmed time of 5-15-30 seconds or 1-2-3 minutes (selector T3 figure 2). If the power failure persists for more than 5-15-30 seconds or 1-2-3 minutes (selector T2 in figure 2), the ATS PANEL starts the generator. After a stabilization time of 5-15-30 seconds / 1-2-3 minutes (T1 selector in figure 2), the ATS PANEL connects the house to the generator. If you have a portable generator, you are requested to start it manually.

When the utility power is stable for a time of 5-15-30 sec. / 1-2-3 minutes (selector T3 in figure 2), the ATS PANEL reconnects the utility power and stops the generator after a delay of 5-15-30 sec / 1-2-3 minutes (selector T1 in figure 2).

4.0 ALARMS MONITORING

NOTE:

IF A BATTERY IS CONNECTED, THE ATS PANEL CAN STORE THE LATEST ALARM. BY USING A GENERATOR WITHOUT A BATTERY, THE PANEL MONITORS THE ALARMS PROVIDING FULL PROTECTION. PLEASE NOTE THAT WITHOUT DC VOLTAGE, THE ATS PANEL CAN NOT TURN ON THE RED LED INDICATOR.

RED LED ALWAYS ON: the switch is in the BYPASS or OFF position. To eliminate the alarm put the switch in ATS mode.

RED LED ONE CONTINUOUS FLASH: irregular generator voltage or frequency (below 190V, above 260V, below 45Hz, above 56Hz). Another condition could be an instantaneous short circuit. Check the status of the generator circuit breaker. To eliminate the alarm, place the switch in OFF for a few seconds; then put it back in ATS mode. Restart the generator if you have a portable generator.

RED LED TWO CONTINUOUS FLASHES: battery voltage below 11.8V for at least 2 minutes. This alarm is activated only if you have connected a battery or a stationary generator with battery.

RED LED THREE CONTINUOUS FLASHES: excessive load connected to the ATS PANEL or internal fault in the ATS system. The internal 32A fuse may be blown. Put the knob in OFF mode for a few seconds. If the fault persists, the panel must require after-sales service. Put the knob in BYPASS position to restore power directly from the utility power source.

RED LED FOUR CONTINUOUS FLASHES: the generator did not start within the 5 minutes required by the ATS panel. To cancel the alarm, set the switch to OFF or retry starting the generator. The alarm clears automatically.

5.0 CONNECTIONS TO THE GENERATOR AND EXTERNAL CONTROLS

REMOTE OFF input (JI1-2): force the OFF mode of the ATS panel, by disabling the ATS mode.

REMOTE START input (JI3-4): remotely controls the starting of the generator.

SIMULATED UTILITY POWER input (JI5-6): inhibits the starting of the generator.

FUEL SOLENOID RELAY output max 1Amp (JH3): controls the diesel fuel valve.

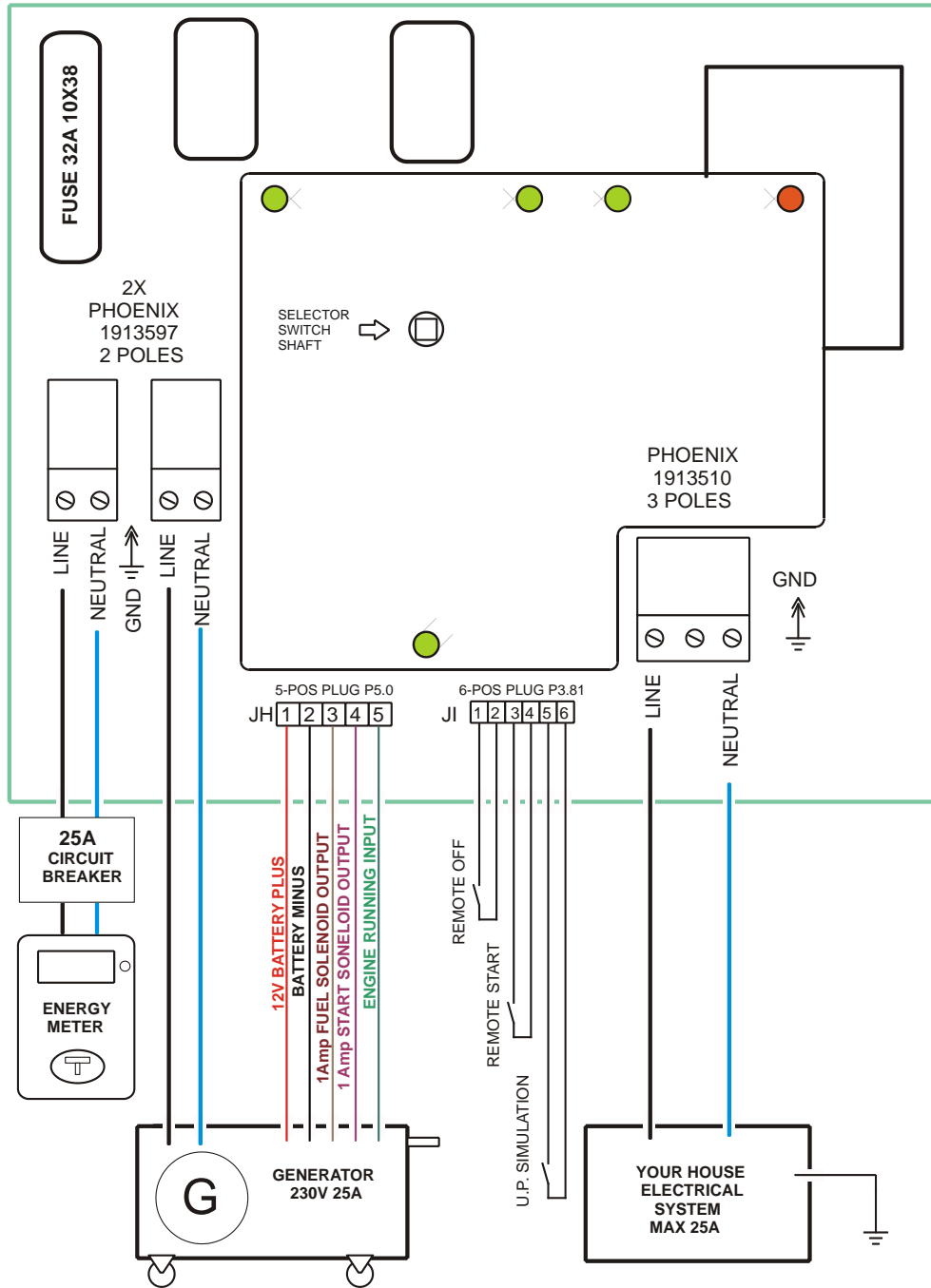
START SOLENOID RELAY output max 1Amp (JH4): controls the starter motor.

ENGINE RUNNING (30V max) input JH5: supplies the engine running signal to the ATS panel.

FIGURE 1 CONNECTIONS and SAFETY NOTES

SAFETY NOTE Before accessing the internal parts of the ATS PANEL set the knob is in the OFF position. Disconnect the utility power and generator. Remove the screw that secures the knob. Remove the four plastic screws that fix the panel cover. Store the plastic cover in a clean and dry place.

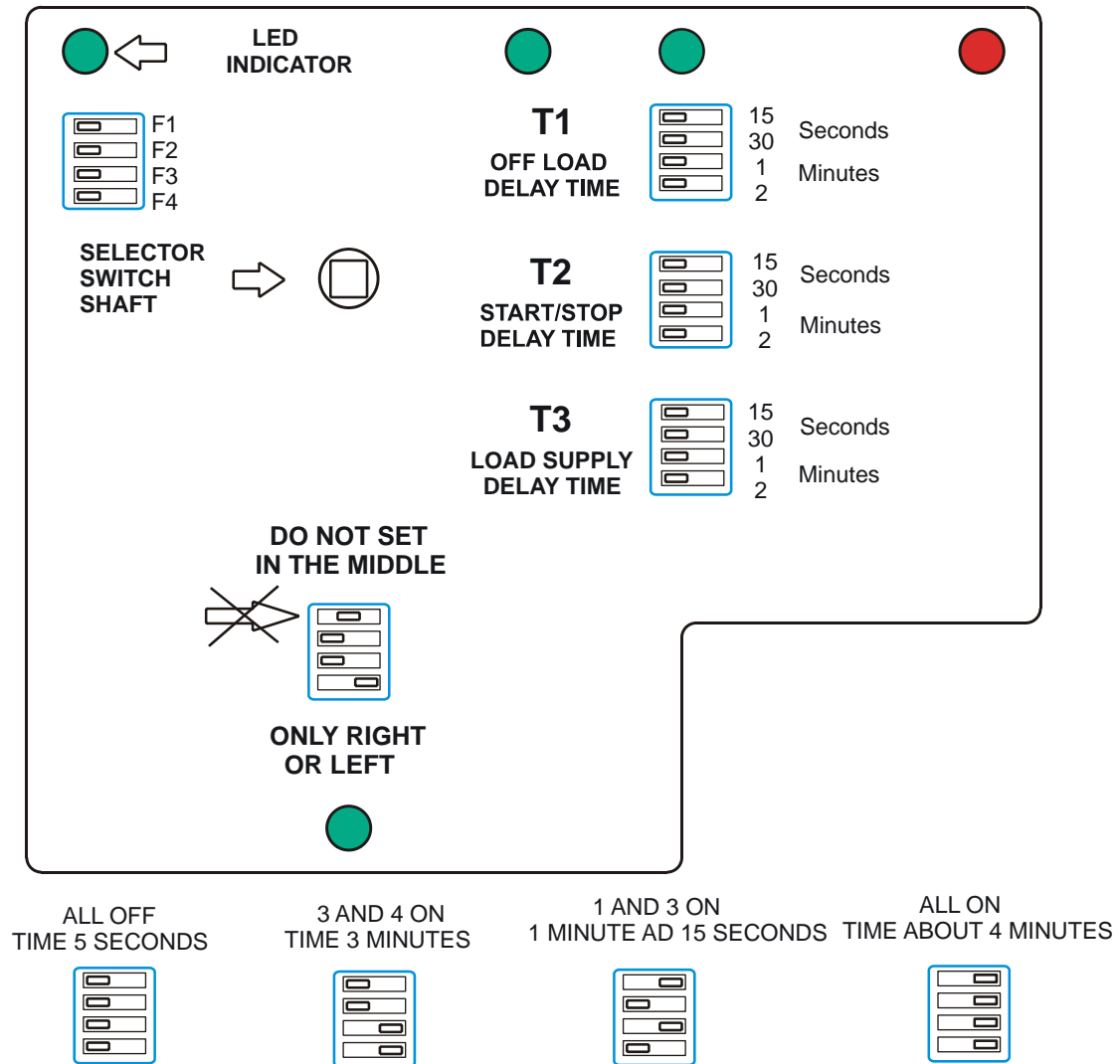
Do not lose the knob fixing screw. After having carefully tightened the screws of the terminals connected to the electric cables, mate the connectors fully into their sockets.



When the operations are completed, place the plastic cover taking care to fit the gasket exactly. Slightly tighten the 4 plastic screws. Reposition the knob and secure it with its own screw. Hold the switch in OFF mode. Connect the utility power and the. If in doubt, contact our technical support at: bernini@bernini-design.com / 0040 721 241 361

FIGURA 2 DIP-SWITCH SETTINGS

Remove the plastic cover following the **SAFETY WARNING DESCRIBED ON PAGE 2**. To operate the slide of the micro switches use the tip of your fingernail or the head of a marker or alternatively a toothpick. Avoid the use of screwdrivers or sharp metals. Choose the position fully right (active) or left (not active). Do not leave the slide in an intermediate position. For each selection, the processor analyzes the activated contacts and eventually executes the arithmetic sum of the times in case you activate multiple slides. See examples in the figure below.



5.0 REVISION HISTORY

03 November 2021: first release. 08 February: minor corrections.

6.0 SPECIFICATIONS

TIPOLOGY	DESCRIPTION
Dimensions / Ingress Protection	320mmx250mmx140mm / IP56
Holes footprint	250mm (base) 170mm (high) 4-hole
Weight	3Kg
Relay Outputs	Positive Voltage (V batt) MAX 1A
Digital Input	Dry contacts
Load Maximum Continuous Current	25A - 230V
Recommended circuit breaker protection rating	25A - 230V
Internal ATS breaking rating	32A AC1
Continuous Internal ATS rating	25A AC1 FUSE 32A 10X38
12V Battery Charger	12.8V 0,5A
ATS Panel Utility Power Nominal voltage	230V (210V-240V)
ATS Panel Generator Nominal voltage	230V (210V-240V)
Frequency Range	45Hz - 56Hz
Utility Power Short-Cuts detections	500ms
Utility Power Transient Filter	T3 5-15-30-45 sec, 1-2-3 mins
Mains Failure - Restore time	T2 5-15-30-45 sec, 1-2-3 mins
Warm-up Cooling-down time	T1 5-15-30-45 sec, 1-2-3 mins
Max cable size	10 mmq
Norms compliance	EN61349X, 214/35/UE, CEI121-5, 2014/30/UE
Environmental Conditions	-10/+40 gradi Celsius / 85%
Certification	CE
Warranty	10-year

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