

5 Operating Procedures

This chapter defines the operating procedures to be followed to activate, deactivate and manage the UPS. The instructions shall be applied with the sequence, in which they are written.

5th1 Commissioning

Make the connections according to the installation section.

Switch the circuit breaker on the input distribution panel “ON” / “I”.

Switch the circuit breaker on the by-pass distribution panel “ON” /”I”.

If the by-pass mains input is separated, bring the by-pass circuit breaker (F4) to “ON”/ “I” position.

Bring the input circuit breaker (F1) and inrush circuit breaker (F6) to “ON”/ “I” position.

Bring the output circuit breaker (F2) to “ON” / “I” Position.

Wait for the LCD to start up. Set the date and time.

See the “NORMAL” message on the LCD.

Bring the circuit breaker of the external battery cabinets to “ON”/ “I” position.

Bring the battery circuit breaker (F5) to “ON”/”I” position.



The UPS starts up in bypass mode and automatically switches to normal mode. “NORMAL” message will not be displayed, until the UPS switches to normal mode. Frequency/waveform/rms value of the bypass mains voltage shall be in acceptable limits and bypass shall be enabled for the UPS to start-up. Voltage and frequency of the mains input shall be in their tolerance limits, and both the rectifier and the inverter shall be enabled for the UPS to operate in normal mode.

5th2 Decommissioning

Bring the output circuit breaker (F2) to “OFF”/”0” position.

Bring the input, inrush and manual by-pass circuit breakers (F1, F6 and F3) to “OFF”/”0” position.

If the by-pass mains input is separated, bring the by-pass circuit breaker (F4) to “OFF”/”0” position.

Bring the battery circuit breaker (F5) to “OFF”/”0” position.

Bring the circuit breaker of the external battery cabinets to “OFF”/”0” position.

Switch the circuit breaker on the input distribution panel “OFF” / “0”.

Switch the circuit breaker on the by-pass distribution panel “OFF” / “0”.



In the event of an extended period of UPS inactivity, the batteries must be charged periodically in order to prolong battery life. The charge period, which depends on the temperature, is given in the “storage” section of the manual.

5th3 Switching into manual by-pass during operation

Manual by-pass enables the user to isolate the electronic circuitry of the UPS from the mains and the load without interrupting the load operation by connecting the loads directly to the bypass supply.

This feature is useful while performing maintenance or service and shall only be executed by authorized technical service personnel.



Maintenance and service may only be performed by authorized technical personnel

Bring the manual bypass circuit breaker (F3) to “ON”/ “I” position.

Make sure that the UPS switches into bypass mode (see “BYPASS” message on the LCD). Voltage, frequency and waveform of the bypass mains shall be in limits, and bypass shall be enabled for the UPS to operate in bypass mode.

Bring the input and inrush circuit breakers (F1 and F6) to “OFF”/”0” position.

If the by-pass mains input is separated, bring the by-pass circuit breaker (F4) to “OFF”/”0” position.

Bring the output and battery circuit breakers (F2 and F5) to “OFF”/”0” position.

LCD and buzzer will stop operation in a few minutes.



During manual bypass operation, loads are fed directly from bypass mains. Therefore no protection against mains disturbances or interruptions is present.



Although all switches except F3 is “OFF” during manual bypass operation, hazardous voltages are present on the terminals, EMC filters and measurement circuits.

5th4 Returning from manual bypass to UPS

Bring the output circuit breaker (F2) to “ON”/”I” position.

Bring the input and inrush circuit breakers (F1 and F6) to “ON”/ “I” position.

If the by-pass mains input is separated, bring the by-pass circuit breaker (F4) to “ON”/ “I” position.

Bring the manual bypass circuit breaker (F3) “OFF”/”0” position.

See the “NORMAL” message on the LCD.

Bring the battery circuit breaker (F5) to “ON”/ “I” position.

5th5 Connection to a generator

If the input power is supplied by a generator, set the digital input “GEN ON” high. This ensures generator friendly operation by smoothing the increment of the current drawn from the generator, during transition from battery mode to normal mode.

When this is done, “GEN ON” alarm will be shown. Connection details are given in the “communication” section.