

ALSS - Automatic Load Shedding System – Sales Information.

- Office and Retail.
- High Rise Developments.
- Multi-tenanted Buildings.
- Public buildings.
- Hospitals.



- Life Safety Systems Preservation.
- Centralised Generation.
- Energy Saving Systems.
- Demand Side Management.

ALSS Applications.

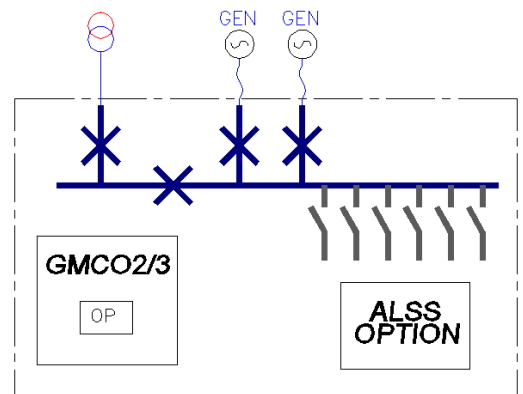
Weirgrove ALSS systems can be implemented as stand-alone controllers or as “bolt-on” options to our ENMS, APMS or GMCO control systems. Typically load shedding is activated in systems that have to run on a power budget, for instance when on partial standby generation. Demand side management using ALSS is becoming a topical issue and offers great potential for energy saving and carbon footprint management.

These load shedding systems are often used to supervise centralised generator schemes in multi-tenanted buildings according to individual requirements for standby power. They are also useful to manage the build up of the generator load and to minimise the initial surge and optimise the loading once they have warmed up.

ALSS is available as a simple and effective load shedding system which can be established using a basic load map and “dead reckoning” to balance the energy budget of supply and demand. However, Weirgrove have also developed a more capable **Adaptive Load Shedding System** which accepts feedback from meters in the system and applies incremental load adding and load shedding to make best use of the available supply and respond to changes in load characteristics.

Our ALSS systems are suitable for both MV and LV generation schemes, and for distributed networks with transformers. In transformer networks the ALSS system also manages initial “black starting” to prevent generator trips during inductive power-on surges.

The ALSS can be configured for any configuration of busbars and load connections and can also be used to modulate the site load when multiple generators need to synchronise directly onto main busbars.



Weirgrove Power Management Systems

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Weirgrove Power Management Systems is an Underwoods Group Company.

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Description.

The **ALSS** controllers and load control modules are from the **Weirgrove** family of “off the peg” standard switchgear automation solutions. The controllers are based on rugged industrial PLC technology from Siemens Automation and the ALSS design benefits from an increasing installed population which has been developed to give extremely reliable and stable control in service.

The ALSS graphical interface can be implemented in an existing or dedicated HMI, and this provides access to the Load Mapping facility for the energy network. The ALSS controller uses this load map and an energy budgeting algorithm to send switching commands to a network of discrete load shedding modules that can be built into our LV and MV switchgear packages.

Load switching commands are state stable and can be used to switch motorised circuit breakers or to provide discrete enable signals to individual mechanical plant items such as chillers and heaters. Our Automatic Transfer Switches (ATS) can also be integrated into an ALSS scheme allowing their operation to be managed as part of an overall energy budgeting scheme.

Features.

Weirgrove ALSS components include many standard features designed to enhance reliability and reduce risk by making the systems easier to operate.

- Reliable, maintenance free automation using PLCs and HMIs with no moving parts or batteries.
- Fast PLC scanning times allow better resolution of cascade events and improved diagnostics.
- Alarms and events logged into non volatile retentive memory with timestamps for accurate diagnostics.
- Manual override facilities.
- Pulse on – pulse off state stable control and “bumpless transfer” between operating modes to reduce unwanted switching.
- Robust programming techniques using complementary Boolean logic for better diagnostics and state stable control under fault and transient conditions.
- Fast booting times and rapid synchronising to existing power conditions without unwanted switching.
- Multiple volt sensors checking with programmable stability timers and ride-through of “brown-out” conditions for extra stability.

Options.

- Dual redundant processors and selection from multiple feedback sources to give make the system tolerant to hardware failures in PLC or Instrumentation.
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