

# SSR LV CONTROLLER: APPLICATIONS

## Shield Stabilizer Regulator Low Voltage

Typical application of the SSR LV Controller is the civil and industrial users that needs to control the voltage level of their power supply.

In the civil applications, unstable power supply (voltage fluctuations) of a building, an hotel, a hospital or a shopping mall can bring considerable problems to the electrical devices.

Voltage fluctuations can have exogenous origin (from the network) or can be caused by the user itself with load variations; the voltage may vary in function of:

- the operation of compressors for environmental conditioning
- the lighting level
- the operation of motors for elevators
- the operation of compressors for refrigerator
- the night-time load reduction, etc.

Power the assets with voltage different than the nominal, can bring a reduction in the asset's service life and an increase of the maintenance costs.

The use of the SSR LV Controller ensure to operate the assets at the nominal conditions with benefits in terms of service life, operating costs and maintenance costs.

A typical industrial application is the case of a remote manufacturing department that's located far from the power source of the factory.

The voltage drop due to the power cable length is affected also by the operation of the manufacturing machines and can bring to voltage values that may not be suitable to operate machine-tools, welding machines and drying processes.

An SSR LV Controller installed immediately upstream to the remote manufacturing department, will automatically and continuously control the voltage stabilizing it at the nominal value enabling the correct operation of the production's machines.

The SSR LV Controller is available in two different implementations that makes it fitting to all market requirements:

- Dry, when it is necessary to avoid the presence of potentially flammable material
- Oil Immersed, for aggressive environments

The concept of the SSR LV Controller is based on the control of dispersed magnetic fluxes and overcomes the need to use sliding contacts avoiding the relevant sparks and the related carbonaceous residues that negatively affects the conventional systems. Magnetic flow control is carried out by the dynamic positioning of a magnetic screen without any sliding contact by means of a simple screw-nut coupling assembly. The resulting design is:

- simple
- robust
- reliable
- with limited maintenance (comparable to that of static machines)
- able to ensure continuous control (and not step-by-step as in the conventional solutions)
- able to ensure wide control range (standard  $\pm 20\%$  and easily adaptable to specific customer requirements).

The SSR LV Controller is "Plug & Play": once positioned, you simply need to connect the input to the power network cables and to connect output to the cables powering the user; since the device is completely autonomous in its operation, it does not require any auxiliary power or commissioning activity.

